INDIA RUBBER WORLD

Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.

No. 15 West 38th Street, New York.

CABLE ADDRESS: IRWORLD, NEW YORK.

HENRY C. PEARSON, Editor

Vol. 48. SEPTEMBER 1, 1913. No. 6

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and dependencies and Mexico. To the Dominion of Canada and all other countries, $3.50 (or equivalent funds) per year, postpaid.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank or draft, Postoffice or Express money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Postal Order, payable as above.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Entered at the New York postoffice as mail matter of the second class.

TABLE OF CONTENTS ON LAST PAGE OF READING.

THE MONROE DOCTRINE AND THE RUBBER INTERESTS.

WHEN that historic, much discussed and exceedingly interesting piece of international polity, formulated by John Quincy Adams—then Secretary of State—and promulgated by his chief, President Monroe, in 1823, and known ever since as the "Monroe Doctrine," was first given to the world, it undoubtedly was timely, salutary and effective. At that time most of the South American republics had all the weakness of early infancy. They were absolutely incapable of protecting themselves, and any little jolt from a European power would have taken them off their feet. It was of vital importance to their continued existence that the protecting arm of the United States (to be sure, this arm, itself, was none too strong in those days, but strong in comparison with our neighbors of the South) should be thrown about them. The result was not only beneficial to them but beneficial to the whole family of nations.

But that was 90 years ago. Both the conditions and the "doctrine" have changed vastly since that time. Most of the South American Republics have now celebrated the centennial of their establishment. Many of them are populous and prosperous. Some of the largest warships floating the seas belong to their navies. And while they of course do not compare in military and naval strength with the European powers, still, no one would be likely to interfere with them now, as long as they behave themselves with moderate propriety. They realize the changed conditions, themselves, very fully; and while 90 years ago and for many years thereafter they were extremely glad to feel that they had a place of refuge in the great republic of the North, it is common comment among travelers in South America that the citizens of these various republics have long entertained a feeling of resentment at the patronizing and protecting attitude still maintained by the United States.

But more important than the change of conditions and of general sentiment in South America toward this doctrine, is the change in the doctrine itself. As stated by President Monroe, it simply gave the European nations to understand that the Western Hemisphere was no longer open for the establishment of new dependencies, and that any attempt on their part to establish such dependencies on this or the southern continent would be looked upon by this government as an unfriendly act. But the Monroe Doctrine as interpreted by our statesmen during the last two or three decades—and particularly as announced by Mr. Olney in 1895, when he was Secretary of State under President Cleveland—and when he gave the British lion's tail such a merry twist—is vastly broader and more far reaching. Mr. Olney announced, in fact, that the United States was supreme on this hemisphere, and practically informed the world that it could run things from Behring Strait to Magellan Strait, and would regulate all international and internal difficulties between these two points. European nations were not only not to be permitted to establish any colonies on this hemisphere, but they were not to be permitted to seek any redress if they or their citizens were treated with injustice in their dealings with any American republic; the United States would see that justice was done in all directions.

This certainly was a tremendous undertaking, or would be if it were carried out—but, as a matter of fact, it is not. We forbid other nations from making any show of force in the protection of their interests or those of their subjects, practically guaranteeing that we will look after their interests for them and see that the peace is kept and that order is maintained. But do we do it? Is not this part of the Monroe Doctrine —the fulfilling of our obligation to see that general order is maintained—mostly a pretense? Take Mexico, for instance.

It is not necessary to dilate upon the condition of affairs in Mexico during the last three years, and particularly during the last twelve months. If there were no Monroe Doctrine, the powers, by concerted action, in order to protect their citizens and their interests in Mexico, would undoubtedly have quelled the disorder in that republic long ago. We would not permit them to make any move, on the theory that the restoration of order in that unhappy country was our particular work; but we are not doing this particular work, and our failure to do so has entailed tremendous loss, not only upon Mexicans, but upon a great number of foreigners and upon a particularly large number of Americans. The polished and scholarly gentleman who is now President of the United States, and the gifted orator with the musical voice who is his Secretary of State, confer together much and frequently—and then confer some more—while matters go from bad to worse.

Americans probably have $20,000,000 invested in rubber plantations in Mexico, and it is safe to say that the Guayule interests before the Mexican outbreak were worth $20,000,000 or $25,000,000 more—$50,000,000 would not be an excessive valuation of the American rubber holdings in Mexico. But as matters are now, and as they have been for some time past, this property is rendered, for the time being at least, quite valueless. Undoubtedly when (or perhaps we might properly say if) peace is restored in that country a considerable part of the value of this property will be recovered, but the aggregate loss both in the original investment and in the long cessation of production will be enormous.

It really would be of vast advantage to the commercial interests of this country—not to mention those of Europe—if the Monroe Doctrine could be conveyed out beyond the three mile limit and dropped noiselessly into the sea.

WHEN RUBBER SOLD FOR 25c.

A SALESMAN connected with one of the automobile companies, in explaining the high cost of rubber tires recently, charged it to the fact that increase in the demand for rubber has far outstripped the increase in its supply, and made these two statements: "The natural rubber sources are no greater today than a century ago. Some of the older rubber manufacturers are paying four or five times as much for fine rubber as when they first entered the business."

At first thought one would be inclined to doubt the accuracy, or even the approximate accuracy, of both of these assertions, but on second thought it would have to be conceded that the statements are closely in harmony with the truth. Interpreting "natural sources of rubber" as those for which nature is solely responsible, as distinguished from those started by the hand of man, it is probably not only true that the natural rubber supply is no greater than it was a century ago, but it might be stated with perfect safety that the natural sources of supply are even less than they were a century ago, for during the past century there has been a very considerable destruction of the natural rubber trees, particularly those of the Castilloa family and of the rubber vines in Africa.

The second statement, that some of the older manufacturers paid in early days only one-quarter or one-fifth of the present prices for crude rubber, will probably be received with some incredulity by many people in the trade; but this also is not very far from the mark. There are some manufacturers still living —not many, it hardly need be said, but a few—who can remember when they bought fine Pará rubber at a shilling a pound; and some of the older manufacturing companies, if they have kept their records intact, will be able, by referring back to their early days, to find many instances of fine rubber purchased at this price. To be sure the price did not remain long at this figure, because the early annals of the American rubber trade contain a complaint made by the New England manufacturers, some sixty years ago or more, that they were often compelled to pay as high as 50 cents a pound for Pará rubber—and they looked upon it as pure extortion.

On glancing back at the price of crude rubber in the early days, the inquiry naturally suggests itself: How is it that the people along the Amazon maintain that they could not by any possibility deliver fine Pará rubber at American or European ports of entry under 65 cents a pound, and that if the price should go below that they would have to cease shipments, when it was possible for them sixty years ago to deliver rubber for 35 cents and even 25 cents? Transportation facilities certainly are vastly better now than then, while the primitive style of living of the earlier days still obtains along the banks of the Amazon. Why has the cost of gathering rubber increased so greatly?

NOT ALL RUBBER GATHERING INHUMANE.

THE report of the House of Commons Committee on the Putumayo situation, mentioned in the July issue of this publication, contained the following paragraph: "The committee further expresses the belief that the Putumayo incidents are but a shocking instance of the conditions that are found over a wide area in South America."

A correspondent who has passed five years in the Amazon country as manager of a rubber gathering company, sends THE INDIA RUBBER WORLD a letter—which will be found on a later page in this issue—in which he takes very strong exception to this particular statement of the House of Commons Committee and goes on to describe in considerable detail the conditions under which rubber is gathered along the Amazon, as typified by the station with which he was connected.

Of course, no one believes for a moment that the situation in the Putumayo has any duplicate along the Amazon. Hardships there necessarily are, but the letter of our correspondent is extremely interesting as showing under what humane conditions this work can be carried on. Undoubtedly his camp as he describes it is a type of many others along the great rubber river. Naturally, the manager of such a rubber gathering station is supreme—his word is law—and the conditions of the camp are very much as he chooses to make them. The chief explanation for the horrors of the Putumayo lies in the system of practical slavery that has obtained there, under which the rubber gatherer when once in debt to the company—and that occurs practically as soon as he begins to work for the company—comes completely under its power and so remains until he has worked off his debt, which, in the majority of cases, is a matter of so much difficulty as to amount practically to an impossibility. Along the Amazon, where the rubber gatherers are free agents and no such system of peonage obtains, the barbarities of the Putumayo could not occur.

The counsel of the Brazilian embassy in this country, Mr. C. L. Chermot, corroborates our correspondent in regard to the treatment of the rubber gatherers along the Amazon. Being interviewed a few days ago on this subject, he said that the situation of Indians living in Brazil is very different from that described in the Putumayo district. He continues: "They have been constantly cared for by the government. Since 1910 there has existed in the agricultural department a bureau of protection for the Indians as well as an arrangement for localizing native labor.

"For that purpose Brazil is divided into ten regions, each in charge of an inspector and several employes, chosen with great care, all of them being subordinate to a central bureau in Rio Janeiro. Four of those regions are situated in the basin of the Amazon, from which comes the principal rubber production of Brazil, and it is well to notice that for this service Brazil, as shown by the budget of last year, spent over $666,000."

INSURANCE IN WHOLESALE LOTS.

MUCH has been said during the last decade about the ever increasing efficiency of our American business methods, but there is one particular branch of industrial activity which certainly has been open to the charge of wastefulness—and that is the system of life insurance for wage earners. As it has been carried on, its cost has been out of all proportion to the results obtained. There has been altogether too much machinery for the output. The working man and working woman have been insured for small amounts, against which there have had to be charged the commission of the agent, the doctor's fee for examination, and then the extremely expensive weekly collections, where the collector went from policy-holder to policy-holder, getting 10 cents, or even less, at a time. The extravagance and general inefficiency of this system are obvious.

But a new sort of insurance has recently been introduced to cover just this class of people, which eliminates all this waste. It is "Group Insurance"—insurance by wholesale—under which a blanket policy is written for a large number of people, without the expense of medical examination. While the insurance covers many lives, there is but one policy and but one transaction. For instance: A Chicago company employing about 3,500 men took out a policy which gave each man in its employ insurance equal to twice the amount of one year's pay. The face of the policy was for over $6,000,000, but by the avoidance of commissions and medical fees and much clerical work, there was an initial saving of $50,000 on the transaction. Insurance companies have found from experience that it is a perfectly safe risk to insure a body of working men—whose condition of health permits them to discharge their duties efficiently—without any individual examination, as in such a group of men a normal death rate can be relied upon.

A good many employers are availing themselves of

this new system of insurance, for it has a double benefit. It is obviously beneficial to the workman, for it gives him a fair amount of insurance without cost to himself, and it further enables him to increase his insurance, if he so elects, at the same rate under which the blanket policy is written—which often reduces the cost to one-fifth of the amount under the old system. This system, moreover, is beneficial to the employer, as the moderate expense to which he is put is undoubtedly more than compensated by the increased regard and loyalty of his workmen and by the greater quantity and better quality of work that they can be depended upon to do under these conditions.

A PROTEST THAT SOUNDS REASONABLE.

THE manager of a motor car manufacturing company has written to one of the automobile papers protesting against the continual harping by the advertising departments of the various automobile makers on the fact that they are equipping their cars with "over-size tires." He remarks: "This has assumed the proportions of a fad. Every motor-car advertisement writer seems to think he must use this term. It seems not to make any difference with what size of tires his car is equipped. He uses the term anyway." Then he goes on to say that there is a right-sized tire for the wheels of every car and that is the tire with which the car properly should be equipped, and any tire larger than that is just as much out of place on the car as one that is too small and too light.

This seems to be a very reasonable contention. If "over-size" means anything it means a size that is too large; and it does not seem logical that a motor car wheel should be improved by wearing excessively large shoes any more than it would be of advantage to a man with a number 7 foot to equip himself with number 12 rubbers.

SOME INTERESTING COMPARISONS.

THE prodigious growth in the manufacture of automobiles has been commented on much and often, but every few days some new figures are disclosed that compel the editorial mind to abandon its resolve not to mention this subject again. Official estimates place the value of the exports of complete automobiles for the year ending with last June at $40,000,000, including exports of tires valued at $4,000,000. The value of automobiles, including all accessories, exported in the year 1902-3—that is just ten years ago—was $1,000,000. In 1907 it had increased to 3,000 cars, with a value of about $5,000,000; but the imports during that year almost balanced the exports, being valued at $4,000,000. But in the last six years the imports of automobiles, including all parts, have almost steadily dropped in value, until for the year ending with last June they amounted only to $2,000,000. In other words, while during the last six years the imports have fallen off one-half, the exports have increased eight-fold, and the value of the tires exported last year was almost equal to the entire automobile exports of six years ago and was four times as great as the entire automobile exports of ten years ago.

The foreign field, moreover, is one that is susceptible of still greater enlargement, for the proportion of the population in foreign countries already supplied with motor cars is very much smaller than it is in this country, while the temptation to get an auto, in Europe at least—owing to the shorter distances between cities and the better road-ways—is very much greater.

WHY NOT WASHABLE SHOES?

A REPORTER on one of the New York dailies, in his busy quest for news, recently ran across a shoe dealer who lamented that there were no washable shoes on the market. In order to complete his story he went to a manufacturer of footwear with the suggestion, but was told forthwith that the idea was absolutely impracticable.

But is it?

To be sure, the ordinary footwear of today could not be washed to advantage. Immersion is not especially beneficial for leather shoes, nor is it particularly advantageous for shoes made of cloth; but would it not be possible to treat both leather and cloth shoes with some sort of rubberizing preparation which, while not preventing ventilation, would permit them to be duly immersed and properly washed without any detriment? People—at least those in the more orderly walks of life—are accustomed to having their hosiery laundered from time to time, so why not their shoes?

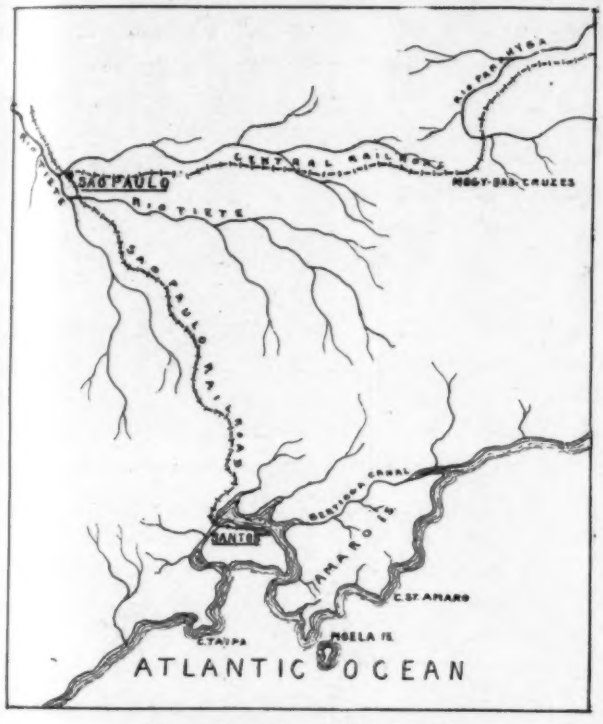
At any rate, now that September has arrived and everyone is back from the summer outing, refreshed by the delights of the mountains and the joys of the seashore, and ready to confront new problems and to engage afresh situations which have hitherto proved baffling, why is not this a good time for some energetic intellect to get to work on the subject of washable shoes?

Santos and Sao Paulo.

By the Editor of The India Rubber World.

From Rio to Santos—Railroad Thrills—The Journey by Boat—Off Moela Island—A Dangerous Passage—An Ancient Death Trap—Sanatized Santos—The Great Docks—The Coffee Mart of the World—Immigration System—Coffee Loading Machinery—Miles of Conveying Belts.

AS I was beginning a letter on South Eastern South America there came a friend in a hurry to know all about Santos. He seemed full of "the deadly unhealthfulness of the place." What literature he had been reading I do not know,



MAP OF SANTOS AND SAO PAULO.

but I promised that I would at once try to picture this important port as it appeared to me during my two visits there.

One's thought turns particularly to Santos when a visit to Rio is about to close, for it is only a short distance to the South. There are two ways of reaching it. One by railroad, by way of the city of Sao Paulo, and the other by steamer. The latter is preferable unless one is in search of thrills. If so they can be secured from the terrific speed at which the huge Baldwin locomotives snatch the trains across country, around curves, down steep inclines, and across bridges. According to popular report they run off the rails very often, but usually are lucky enough to choose a place where only the rolling stock is damaged.

By boat we go therefore, leaving Rio harbor at nightfall, and awakening the next morning with the dim outlines of Moela Island off the starboard bow. Just as we got on deck the order for half speed was given, and the big steamer swung slowly past Cape Monduba, the quartermaster heaving the lead, for entrance to Santos is difficult and often dangerous. We appreciated this when, as we were passing slowly through the buoy-marked channel, close under the bare granite slopes of Cape Roza, a sudden tropical rainstorm shut out the land and enveloped us in darkness. The engines were promptly reversed, the anchor let go, and the fog-horn started, for we were directly in the channel, inviting collision with other craft. The decks were soon crowded with startled passengers, who besieged officers and stewards with the usual foolish questions. In a few moments, however, the rain cloud lifted, showing sinister looking rocks on our port quarter and a bar with white water breaking over it not a great distance away, and it did not require much of an imagination to picture our fate had the steamer been less skilfully handled.

The port of Santos formerly had a most forbidding reputation as a fever hole and a death trap. It was customary for the officers and crew of vessels clearing for this port to demand extra pay before signing the articles, as there was the chance that none would return. In that case their ships were left to rot, for the yellow fever was swift and deadly when once it had laid hold of them. Nor could the owners get another crew to bring home a fever ship. This is all past now and the last vestiges of the abandoned ships have been removed. Modern sanitation has cleaned this once pestilential spot and made this port second in importance to Rio de Janeiro—that is in respect to the tonnage of vessels entering and clearing.

But to continue, the rain over, we steamed slowly up the nar-

PARTIAL VIEW OF CITY OF SANTOS AND HARBOR.

row river channel that leads to the inner harbor. On both sides were low, level, *banjos* (flat lands) covered with dense tropical growth. The luxuriance of the verdure attested to the richness of the soil and suggested its wonderful adaptability to banana culture. Bright vegetation, damp, earthy smells, and slowly rising morning mist-clouds are ever sure indications of tropical fertility.

Near the river's mouth is the harbor-master's station, and adjoining buildings straggle off along the bank, forming a small town. Severely plain in structure, the edifices are fearfully and colorfully painted. The sleepy inhabitants glanced at the passing steamer, and then resumed thumping an inquisitive pig, shooing a thieving hen, slapping a squalling brat or whatever their strenuous labor interrupted by our arrival.

The lofty steel towers, standing like sentinels on either side of the river, support an electric cable which transmits power from Parahyba to Santos, where it operates the street railroads and the complicated dock machinery. As we pass these towers, which look strangely familiar, we are reminded that when Brazil wants the best and most modern electrical machinery she places her order in the United States.

The long docks, crowded with steamers of every nation, next appeared, and we anchored in mid-stream awaiting our turn to be berthed at the dock. The Companhia Docas do Santos (Guinle & Co.) own and operate these docks and their great warehouses. The former extend for more than a mile and a half along the south bank of the channel, which was never very wide or deep until powerful suction dredges made it so, and incidentally filled in the low land where now the coffee warehouses stand. In docking, great rope hawsers were let down from the bow and stern of the steamer and carried in small boats by swarthy, barefooted watermen to the docks, where they were made fast in huge iron rings set in solid masonry. Then the ship was slowly warped sidewise to her allotted place. Shouts, yells and Spanish oaths (badly pronounced) in profusion were required before we were securely tied up and the gangway let down. Then—and not before—the purser hung out the mussy little blackboard that announced in a chalky smear the hour of the steamer's departure, and the sight-seers rushed frantically to catch trolley car, train or steamer, and we were ashore. What rubber is to Pará or Manáos, coffee is to Santos, and more. It is the largest coffee exporting city in the world. In the year 1906-7, 15,392,000 bags were shipped from this little city of only 50,000 inhabitants.

It is the chief seaport of the province of Sao Paulo, famous for the enterprise of its people, who are called the "Yankees of Brazil." This is by no means a misnomer, for their forbears, the fierce Mamelucos, were a mixture of Portuguese and Indian blood, a warlike race that settled, conquered, and defended the country—the true pioneers of Brazil. The climate of Santos is wholly tropical, with 90 inches of rainfall, and an average yearly temperature of 71 degs. F. The municipality of Santos includes the island of St. Vincent and the island of Santo Amaro. The city is located on the northeastern end of the former island,

OFFICES OF THE INSPECTORS OF IMMIGRATION.

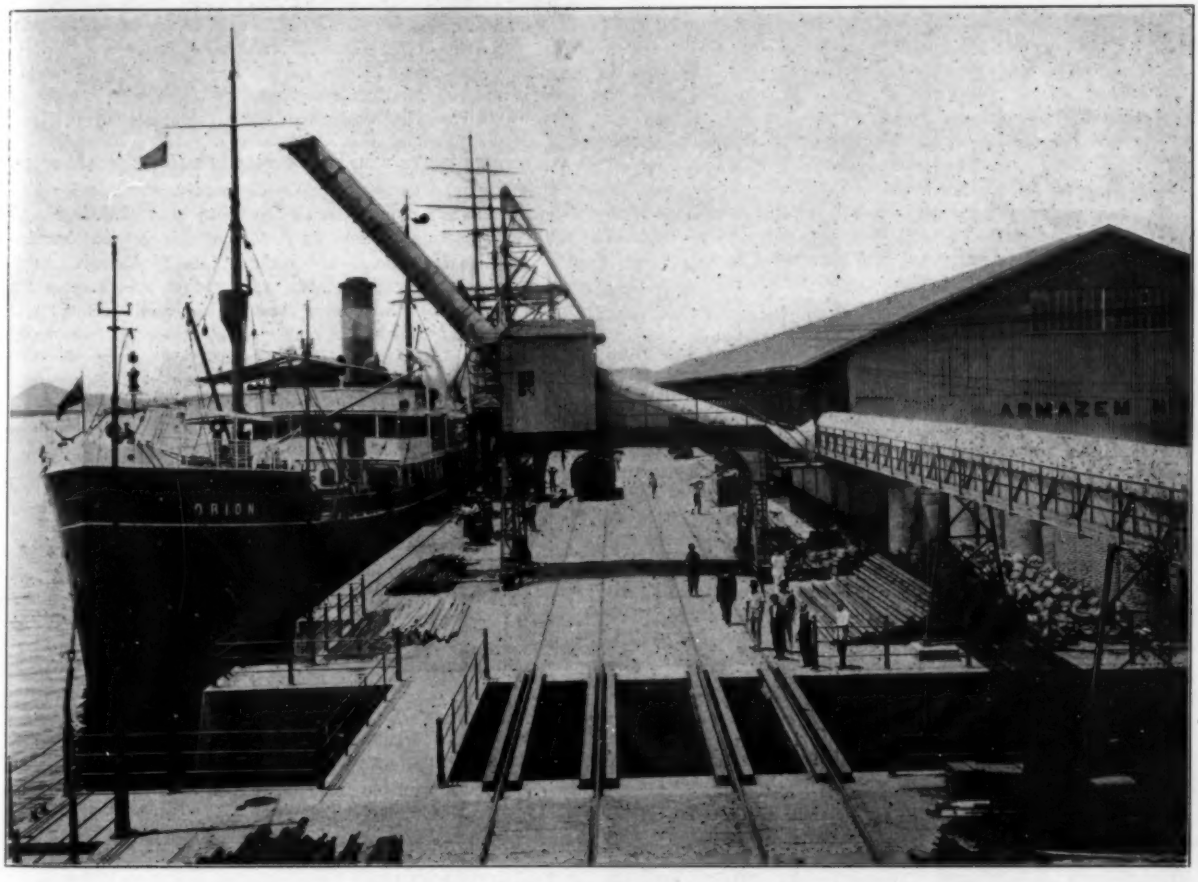
near the foot of a hill on the summit of which is the church of Our Lady of Montserrat, one of the oldest shrines in Brazil. The streets are well paved and scrupulously clean. The houses are Spanish, of the one or two-story type, built out to the sidewalk, with wide open windows, usually occupied by the feminine portion of the family. The ladies of Santos occupy these windows in order to see and be seen by the passers by, who are saluted, if friends, and stared at if strangers. On fiesta days and special occasions it looks like a panorama of box parties, and creditably upholds the reputation that Santos enjoys for beautiful women and expensive costumes.

There are many parks or public squares, with shade trees, flowers and inviting benches that urge the weary to rest. The post office and better shops are on a central square, or near by, so that the retail commerce of the city can be observed by stroll-

BIRD'S-EYE VIEW OF THE CITY OF SAO PAULO.

ing through the macadamized streets which radiate from this point.

The Praca do Commercio is not far away, and just across the street from the little hotel, famous for the black coffee served, is the building of the Commercial Association of Santos, where a polite attendant furnishes you with printed statistics, reports and all sorts of commercial information. From here it is only a short distance to the *Inspectoria de Immigracao*—or "The Inspection of Immigration"—located in a modern two-story building with large well furnished offices, where capable officials and clerks attend to this very important branch of the department of commerce. They look especially after immigrants who land in Santos with the intention of settling in the state of Sao Paulo. They also compile statistics on immigration and emigration for the port of Santos, secure and list information on all conditions of the state in order to give full and accurate reports to inquirers, and maintain a comprehensive exhibition room provided with maps, samples of products, statistical tables, etc.



DOCKS AT SANTOS.

Each steamer on arrival is visited by an immigration official who makes a formal offer of free board and lodging to all third-class passengers for Santos who pass satisfactory inspection, also free transportation and board at the Hotel of Immigrants in Sao Paulo, where the home-seeker awaits the department's instructions. Later the immigrants are "placed" in accordance with their previous experience or trade. In 1910 the monthly average of immigrants landed in Santos was 3,140 or about 104 a day.

When the docks of Santos were building, the most experienced engineers were employed to evolve a modern system that would be second to none in the world. How well they have succeeded can only be fully realized by walking along the wide ganite-paved quays teeming with activity. Fussy little engines are puffing up and down the tracks, switching empty freight cars in place or hauling loaded ones out of the way. The strident, incessant toot of the whistle is most effective in keeping the tracks clear. Powerful steel cranes operated by electricity move slowly alongside the steamer and quietly unload cargo on flat cars, or swinging with full radius drop the burden within the shelter of the warehouse. Freight from all parts of the world lies about in apparent confusion. There are great tubs of fish from Norway, bundles of tools from Germany, canned goods from Spain and Italy, boilers from Scotland and barbed wire from the United States. Sao Paulo cargo is loaded directly on the cars and hauled out every night, reaching its destination the next morning. Mixed freight and broken lots are delivered by the cranes to the doors of modern, steel-construction, absolutely fire-proof warehouses. These are built on the unit system and extend along the quays, parallel to the docks, with fenced spaces between the warehouses where heavy freight is stored. In these open bays is the inclined belt-conveying machinery used for loading sacks of coffee. Across the street from the docks millions of bags of coffee are stored in great warehouses, which extend as far as one can see, occupying the entire area back of the docks.

When ready for export it is loaded by conveying belts which are permanently in place in the bays between the dock warehouses. The installation consists of a platform which extends along the sides of the dock warehouses for about a mile. This

supports the main belt conveyor. Inclined conveyors deliver the coffee to this long endless belt, which in turn carries the sacks along until they are intercepted by one of the loading machines and automatically delivered aboard the steamer. These loading machines run on tracks and move by their own electric power up and down the dock. In them are the motors that operate the belt conveyors and indeed all of the complicated machinery of this huge loading device. It is too bad, but of the miles of belting used not one foot of it is rubber. Stitched canvas is what they use, and they are convinced that rubber belting would not stand up in that hot, humid atmosphere.

(To be continued.)

HOW MOTORCAR TANKS ARE FILLED IN COLORADO.

By a Western Correspondent.

THEY were discussing their summer vacations, back there in the smoker, and the practical results, if any, attendant on the purely pleasure jaunt.

The quiet, dapper man who had sat still and said nothing, stepped in at this point and remarked:

"I've been summering out in Colorado and the Rockies, and that sort of thing—and I've picked up one new idea that I intend to put to personal use forthwith. Almost the whole country over, except there in Colorado, the automobilist whose machine requires water contents himself with the nuisance of opening seat or tool-box, bringing from it a collapsible bucket, 'hiking' to some farm-house, begging right to use the nearest cistern, and paying for the privilege with cigars, if not in cash itself. Not so in Colorado.

"There the owners of machines—big and little—purchase from the nearest hardware shop a cheap foot-pump, the sort you hold in place by putting your feet on the bars protruding from each side. Then, they buy a good length of hose, coiling this up either at the side (say inside the extra tire), or attaching it underneath the car. There is hardly an automobile jaunt anywhere in this great and glorious republic, of sufficient length to use up one's supply of water, that doesn't take one over some creek, brook, pond or the like. And at such time our western autoists simply throw one end of their hose overboard, the other staying fixed to the tank. A moment or two with the foot-pump and they have pumped up as much water as they will need till the next stop at least. It's a wonderfully handy arrangement, especially on tours away from the beaten paths; and if I were a rubber dealer I would lay in a big supply of hose, and then I would see that every motorist in my neighborhood knew about this new scheme; and as fast as one tried it he'd tell the next.

FILLING TANK WITH GARDEN HOSE.

RUBBER HOSE AS AN AUTO SIPHON.

And it's my guess that every man of them who bought the hose would come back afterwards and thank me for the idea."

A MEXICAN RUBBER COMPANY INVESTS IN A MALAY PLANTATION.

It is a new departure for American rubber companies interested in Mexican plantations to divert any part of their energies to rubber planting in the Far East—but this is what has been done by the Mexican Crude Rubber Co., of Detroit. In the report submitted by the general manager at the recent annual meeting, these two interesting paragraphs may be found: "It is with a feeling of optimism that your manager turns to the subject of the company's new enterprise, its operations in the Federated Malay States. This was undertaken after very careful though by your board of directors following the report of the investigations made by two of the company's most trusted employees. The Mexican Crude Rubber Co. has acquired by purchase three plantations, all of which are cleared and planted, from which the company will commence to market rubber during the year 1914. These plantations are situated in the State of Selangor, which is the best proven rubber district in the Far East. They are known as the Waterfall Estate, comprising 189 acres; the Kuala Garing Estate of 590 acres, and the Bukit Rawang Estate of 456 acres, or a total of 1,235 acres, which was all planted at the time of purchase."

The company has also leased from the Government a wild tract of 1,500 acres adjoining these plantations, which it is now clearing and which it intends to plant to rubber.

GUAYULE RUBBER FACTORY CLOSING DOWN.

The directors of the Guayule Rubber Co., Ltd., London, announce that owing to the disturbed state of Mexico, and particularly in the regions whence the company draws its supplies of raw material, it has been found necessary to practically close down the factory. This has been done temporarily and the staff reduced as far as it is possible to do so. Cable advices to the home office state that for the present it is impossible to guarantee any specific quantity of production. Further sales of rubber are, therefore, not being made, in anticipation of lack of probable output.

AMERICAN RUBBER GOODS FOR FRANCE.

A business man in a French consular district expresses through the United States consul the desire to obtain an agency for American rubber goods. Replies should be addressed to the Bureau of Foreign and Domestic Commerce, Washington, D. C., under No. 11523.

Navy Specifications.

By E. S. Land, Naval Constructor, U. S. N.

A PAPER READ AT THE THIRD INTERNATIONAL RUBBER CONFERENCE, HELD IN NEW YORK, 1912.

IN purchasing material of all kinds it is necessary, particularly where competitive bids are invited, to prepare certain data to enable the manufacturers to submit an intelligent bid. Such data are usually termed specifications. To prepare satisfactory specifications is an art in itself—one that is the subject of keen discussion, wide divergence of opinion and considerable abuse.

In order to cover the ground properly, great care and infinite pains as to details are required, yet the limits must be broad enough to admit of the widest competition available. Considerable care must be exercised not to incorporate clauses which would exclude certain manufacturers or prejudice them against competing; yet at the same time it is essential to incorporate certain clauses which indicate in sufficient detail the quality of the material or the design of the apparatus being purchased.

To avoid the incorporation of proprietary clauses, and clauses calling for patented articles, needs a nicety of judgment difficult to find.

One is apt to hear the statement that "specifications are all rot," that they increase the cost unnecessarily, that they are made only to be "skinned," that one should buy an article because one knows by experience that it is satisfactory for the purpose intended, without going to the infinitesimal and useless detail of specifications. It is freely acknowledged that there is some truth in each of the statements, but that they are basically erroneous as far as Government business is concerned is stoutly maintained.

A private concern can, and a great many of them do, purchase material without specifications of any kind, but they are at liberty to choose the manufacturer who furnishes such material, and if the material furnished proves defective they are at liberty to cease dealing with said manufacturer; not so the Government, which is required by law to purchase material of the lowest bidder offering satisfactory material; and in case the material proves defective there is a certain amount of redress in attempting to eliminate the manufacturer of inferior material when future bids are being considered. Theoretically the Government is on the same plane in this respect as the private concern; practically this is far from being true. It is exceedingly difficult to eliminate unsatisfactory dealers from competition for Government business; only after the most flagrant abuse of the Government's confidence is it practicable to eliminate such dealers, and even if once eliminated the elimination only obtains for a short period of time.

Government business is more or less successfully hedged in by politics, and by the great American spread-eagle spirit sometimes embodied in the expression "the Government owes me a living"; and more often by the underlying statement, "Well, I'm a taxpayer and support the Government; therefore I've such and such rights." When you run across such statements as these there is no answer.

If it were possible to deal only with reputable, reliable concerns most of the difficulties would be solved, but it is a recognized fact that one is up against all gradations of dealers, from the man whose material is *par excellence* to the man who wishes to furnish you with something "just as good"; from the man whose trade name is a guarantee of quality to the jobber who intends to give you the very poorest material he thinks there is any chance of having accepted; from the man whose establishment represents years of business skill, sagacity and experience, to the man who "carries his office in his hat."

In dealing with all kinds of people it is absolutely essential to safeguard the interests of the Government by covering material desired with detailed specifications carefully prepared and as adequate as practicable.

To prepare these specifications it is frequently necessary to consult a number of manufacturers whose life-long experience enables them to adequately cover the ground; it is manifestly impossible for any person to have an intimate knowledge of the manufacture of all material used by the Department.

Department officials have always received the greatest consideration and assistance from manufacturers in the preparation of suitable specifications for naval purposes. With this information and with a knowledge of naval requirements, the problem then becomes a matter of digesting the information available and producing therefrom a broad statement of the material desired for the specific purpose, together with sufficient details to enable the manufacturer to obtain a reasonable understanding of what is desired.

It frequently happens that the limits at first evolved are too narrow for adequate competition; revision is then necessary, as it is the Department's desire to approach commercial standards as closely as possible.

ESSENTIAL FEATURES.

1. The title should state in general terms the type of the article and purpose for which it is intended, viz.: "Specifications for cast iron porcelain lined lavatories for ships' use." "Specifications for metal uniform case locks." "Specifications for ship's electric ranges."

2. If a revised specification, the title should state the specifications which it supersedes, viz.: Superseding specifications 3-C-1," issued August 8, 1901.

3. The first paragraph of specifications should state in general terms the type, character and number of parts.

4. The second paragraph should give general dimensions and capacities.

5. The following paragraph should give detailed description of parts. If an article is composed of several complete units which when combined make a complete whole, the separate units should be sub-headed and each described in detail. For examples see "Specifications 57S2, Combination Sterilizing Outfits for Operating Rooms; sub-heads: Water Sterilizers, Bowl and Utensil Sterilizer, Instrument Sterilizer, Dressing Sterilizer, Valves and Fittings," etc.; also "Specifications 26-C-1, Chairs for the United States Navy."

6. Requirements for tests, if any are necessary.

7. Tolerances allowed, and terms for acceptance if material does not meet the specifications in certain respects.

8. Instructions as to packing or shipment, where applicable.

9. A statement to the effect that questions as to interpretation of the specifications should be referred to the Yard, station, or place where the inspecting officer for the material in question is located.

10. Paragraph stating where specifications can be obtained.

11. References—In this connection abbreviate, i. e.:

"Con. Off. New York, 2119 UX Apr. 15, 1911," signifies Construction Officer, Navy Yard, New York, letter number 2119 UX, dated April 15, 1911.

12. When illustrations are considered necessary the tracings for reproduction should be made on sheets 5 inches x 8 inches, so that they may be reproduced that size without reducing. If the article to be shown is too complicated or on account of the arrangements to be shown could not be drawn clearly on the above size sheet, it should be drawn so that it can be reduced to that size for printing and yet have all lines and figures readily readable. Tabulations, titles and other information which can be

embodied in the text of the specifications should be omitted from such tracings. The ink should be black and the lines drawn slightly heavier than ordinary in order that a clear reproduction may result. If impracticable to show all of the illustrations desired on one sheet 5 inches x 8 inches, other parts required should be arranged so as to appear on one or more other sheets of the same size. The drawing itself should not go beyond the limits of ½ inch from the edge of the 5 inch x 8 inch sheet.

New Navy Department Specifications.

THE Navy Department is now issuing a number of revised specifications to supersede those hitherto in force. The principal features of those issued up to the present time, so far as they relate to rubber, are shown below:

RUBBER EAR CUSHIONS FOR FIRE CONTROL INSTALLATIONS.

(Specification No. 17C3a, July 5, 1913.)

MATERIAL: To be properly vulcanized and to be made from a compound containing not less than 45 per cent. of washed and dried fine Pará rubber, not more than 3.5 per cent. of sulphur, with the remainder suitable mineral fillers.

TESTS: Permanent elongation not exceeding 20 per cent., tensile strength at least 2,200 pounds per square inch.

GAUGE GLASS GROMMETS.

(Specification No. 33G1a, July 15, 1913.)

MATERIAL: Rubber compound—to be properly vulcanized and to be made from a compound containing not less than 35 per cent. of washed and dried fine Pará rubber, not more than 2.5 per cent. of sulphur, with the remainder suitable mineral fillers.

TESTS: Permanent elongation not exceeding 25 per cent., tensile strength at least 1,500 pounds per square inch.

SHEET PACKING, CLOTH OR WIRE INSERTION.

(Specification No. 33P4a, July 15, 1913.)

MATERIAL: Rubber parts—rubber layers to be properly vulcanized and to be made from a compound containing not less than 25 per cent. of washed and dried fine Pará rubber, not more than 2 per cent. of sulphur, with the remainder suitable mineral fillers.

TESTS: To bend double in any direction without cracking; to stand four hours' exposure to boiling water without injury to layers, and after four hours' exposure to steam at 150 pounds pressure to show considerable flexibility.

RUBBER HOSE FOR USE IN ENGINEERS' DEPARTMENT.

(Specification No. 34H6a, July 15, 1913.)

MATERIAL: Cotton canvas layers of duck (three plies), free from unsightly defects.

Rubber parts: Tube, cover and washers to be properly vulcanized and to be made from a compound containing not less than 35 per cent. of washed and dried fine Pará rubber, not more than 3 per cent. of sulphur, with the remainder suitable mineral fillers.

TESTS: Tests on the hose as a whole to be as indicated in general specifications for rubber material.

GUARANTEE: Manufacturers to guarantee hose to be made according to best principles of construction and free from defects of material and workmanship; if defects shown within 2 years the rubber parts to be replaced with new hose.

1¼-INCH RUBBER HOSE.

(Specification No. 34H9a, July 15, 1913.)

MATERIAL: Cotton canvas layers (three plies) free from unsightly defects.

RUBBER PARTS: Tube, cover and washers to be properly vulcanized and made from a compound containing not less than 35 per cent. of washed and dried fine Pará rubber—not more than 3 per cent. of sulphur, with the remainder suitable mineral fillers.

TESTS: Tests on the hose as a whole to be as indicated in general specifications for rubber material.

Tests of Rubber Compound: Adhesion of friction coat of rubber between plies to stand a weight of 15 pounds without plies separating at greater rate than 1 inch per minute.

Tube and Cover: Tensile strength at least 1,500 pounds per square inch in tube and not less than 1,300 pounds per square inch in cover.

RUBBER PUMP VALVES.

(Specification No. 45V3a, July 15, 1913.)

MATERIAL: Hard valves. To be properly vulcanized and to be made from a compound containing not less than 30 per cent. of washed and dried fine Pará rubber, nor more than 10 per cent. of sulphur. Remainder mineral fillers.

Medium valves. To be properly vulcanized and made from a compound containing not less than 35 per cent. of fine Para, nor more than 5 per cent. of sulphur. Remainder mineral fillers.

Soft valves. To be properly vulcanized and made from a compound containing not less than 35 per cent. of fine Pará rubber, nor more than 2.5 per cent. of sulphur. Remainder mineral fillers.

TESTS: Test on valves as a whole. Valves taken at random to stand a dry heat of 270° F. for one hour, and 400° F. in saturated steam for three hours, without disintegrating or blistering.

SHEET RUBBER TILING.

(Specification No. 59T1a, July 15, 1913.)

CONSTRUCTION: To be built up in two layers, ⅛ inch thick with backing of 10-ounce cotton duck.

MATERIAL: Top layer to resist ordinary wear. Bottom layer of black India rubber, acting as cushion for top layer. Backing of 10-ounce duck free from unsightly defects.

TESTS: Top layer, special test for elasticity. Bottom layer, special test for stretch. Cotton canvas backing, special test for being firmly secured to back of tiling.

RUBBER LIFE BELTS.

(Specification No. 12B1a, March 31, 1913.)

MATERIAL: The fabric to be of the best quality rubber and cotton drill, the rubber having not less than 60 per cent. pure Pará rubber.

TEST: Air pressure test of 5 pounds to the square inch for 8 hours. To support 20 to 22 pounds dead weight in water.

GUARANTEE: Three years.

RUBBER MATTING.

(Specification No. 28M2a, July 15, 1913.)

MATERIAL: The rubber face made from a properly vulcanized rubber compound free from fiber, to show on analysis not more than 60 per cent. mineral matter, not more than 6 per cent. organic acetone extract, nor more than 6 per cent. sulphur. The composition shall be free from objectionable odors.

RUBBER FIRE HOSE.

(Specification No. 34H3a, July 30, 1913.)

MATERIAL: The tube, cover and washer shall be properly vulcanized and have not less than 45 per cent. of washed and dried fine Pará rubber, not more than 3.5 per cent. of sulphur, with the remainder suitable mineral fillers.

TESTS: The hose shall be tested as indicated in general specifications for rubber material, 33 R. 3 (latest issue).

STEAM HOSE.

(Specification No. 34H5a, July 30, 1913.)

MATERIAL: The tube, cover and washers to be properly vulcanized, and made from a compound containing not less than 35 per cent. of washed and dried fine Pará rubber, not more than 3 per cent. of total sulphur, and not more than ½ of 1 per cent. of free sulphur, with the remainder suitable mineral fillers.

TESTS: The hose shall be tested as indicated in general specifications for rubber material, 33 R. 3 (latest issue).

AIR HOSE FOR USE WITH PNEUMATIC TOOLS.

(Specification No. 34H8, January 2, 1913.)

RUBBER PARTS: The tube, cover and washers to be made of a properly vulcanized rubber compound. The friction shall consist of a properly vulcanized rubber compound best adapted for the required service.

PURE GUM RUBBER TUBING.

(Specification No. 33T1a, July 25, 1913.)

MATERIAL: The tubing shall be properly vulcanized and made from a compound containing not less than 35 per cent. of washed and dried fine Pará rubber, not more than 2.5 per cent. of sulphur, with the remainder suitable mineral fillers.

TESTS: When test piece is stretched 2 to 8 inches, permanent elongation not to exceed 25 per cent. Tensile strength shall be at least 1,000 pounds per square inch.

HARD RUBBER.

(Specification No. 33R2a, July 25, 1913.)

CONSTRUCTION: The hard rubber shall be furnished in slab, rod or tube form and shall conform to the dimensions specified in original proposal. If required in sheet form, it shall be of uniform thickness, smooth finish, perfectly flat and polished on both faces.

MATERIAL: The hard rubber shall be made from a properly vulcanized compound best adapted for the required service.

TESTS: When broken, to show a shiny black fracture. To be sufficiently tough to be worked with machine tools, and to take a jet-black polish. To show a high insulation and dielectric strength. To stand exposure to live steam at 212° F. for 2 hours.

RISKS OF POISONING IN RUBBER INDUSTRY.

WITH the increased variety of chemicals employed in the rubber industry, there is a corresponding increase in the risks of poisoning arising from their use. This subject is treated in a lucid and comprehensive manner in the "Gummi-Kalender" for 1912, by Dr. Rambousek.

CARBON DISULPHIDE.

Chronic disulphide of carbon poisoning has formed the object of researches by various experts. According to the results obtained, the minimum proportion of sulphide producing noxious effects is one milligram (0.015432 grain) of disulphide to one liter (61 cubic inches) of air. A protracted stay in such an atmosphere, to which rubber workers are in some cases exposed, is sufficient to cause chronic poisoning. This limit is often exceeded in vulcanizing workrooms, particularly in the absence of special protective measures. It is remarked, however, that the limit of safety is not likely to be exceeded in modern plants, if the ventilation is even moderately satisfactory. In some cases the air in older Berlin factories has been found to contain 3 to 6 times the minimum quantity of carbon disulphide where poisonous effects commence.

Laudenheimer, while recording the comparatively favorable results of precautionary measures at the principal Leipzig factories, adds that the percentage of mental and nervous affections among rubber workers, caused by carbon disulphide, is higher than in other branches of industry under like working conditions. In the years 1896 to 1898 there were in the Leipzig rubber plants averages of 1.95 per cent. of nervous and 0.22 per cent. of mental affections, while in the textile branch the proportions were respectively only 0.92 per cent. and 0.03 per cent.

Recent statistics of Berlin rubber factories showed that with a total working staff of 2,228 there had been in one year 1,041 cases of illness and 20 deaths. Of the former, the percentage of nervous disorders was 2.83 per cent., and of poisoning 1.40 per cent. Compared with the Leipzig averages for the years 1896 to 1898, it would seem that the proportion of nervous diseases had increased in the rubber industry.

BENZINE AND BENZOLE.

Benzine poisoning seems to be of minor importance in the rubber industry, and of much less moment than that resulting from carbon disulphide. Benzole poisoning has been described by Santesson as having occurred in a factory at Upsala (Sweden), where nine young women, employed in making pneumatic tires, became seriously ill, four of them dying.

In another case quoted, rubber dissolved in benzole was applied in the usual way by a spreading machine. Of the three workers occupied on this machine, one became unconscious and succumbed to the poison. In a rubber extracting plant, a worker tending a benzole distilling apparatus was overcome by the fumes of the benzole. Two other workers, who tried to save him, were affected in a similar way, only one of the three escaping with his life. Dr. Rambousek criticizes the manner in which two substances so different as benzine and benzole have been confounded by certain technical writers.

ANILINE.

At a plant engaged in the extraction of crude rubber from rosin by means of aniline, out of seventeen workers eleven fell ill within two months.

HARD RUBBER WASTE.

Crzellitzer has recorded a case of poisoning through the grinding of hard rubber waste, which affected the workers engaged in the process.

VULCANIZING FLUIDS.

Attention is called to the noxious effects on the skin, of the liquids used in vulcanizing. This result is attributed in the first place to the benzine and carbon disulphide present in the solutions.

Such are a few of the principal sources of poisoning in rubber manufacturing, quoted by Dr. Rambousek, who has, moreover, given copious references to various authorities on the subjects treated.

TO GET RUBBER FROM THE SAGEBRUSH.

Congressman Baker, of California, recently introduced a resolution in the House, asking for an appropriation of $5,000, to be used in analyzing and testing the sagebrush and greasewood which grow so extensively in California, Nevada and other parts of the far West. In fact they grow far too extensively for the comfort of the farmers, who have found these growths a tremendous pest. Some experiments tried a while ago, however, by chemists, brought out the fact that sagebrush has quite a large content of rubber, alcohol and acetic acid, and it is hoped that some system of treatment may be discovered that will render it possible to extract these constituents, and especially rubber, in profitable quantities.

INCREASED AMERICAN TRADE WITH TASMANIA IN RUBBER GOODS.

Statistics from Consul George M. Hanson, of Hobart, show imports of American rubber goods into that colony as $5,508 in 1911 and $9,408 in 1912.

The Struggle Between Brazil and the Far East.

WHILE the "Awakening of Brazil" has been generally recognized as one of the most interesting factors in the economic history of the day, it has given rise to criticism in Europe. In particular, the question is discussed by M. Jules Tilmant, in the "Bulletin de l'Association des Planteurs de Caoutchouc," and being published in the organ of that representative body, his remarks, while specially intended for European capitalists, invite general attention and consideration.

One of the chief points urged is that what might have been possible in Brazil had systematic plantations been established ten years ago, is now difficult, if not impossible of execution. In other words, had Brazil gone in for rubber planting at the same time as the Far East, she would now have been in a better position to meet Asiatic competition. Taking matters, however, as they are, M. Tilmant asks whether it is still possible to make up for lost time, and whether the measures proposed are of such a nature as to offer a prospect of the desired results being accomplished.

INCREASED PRODUCTION.

In view of the position occupied by plantation rubber as a result of larger production, the increase of Brazilian output has naturally engaged primary attention. This end would apparently be attainable through planting on an extensive scale and through the adoption of modern methods of tapping. But, as M. Tilmant remarks in speaking of the former subject:

"This augmented output might have been anticipated had planting been undertaken at an earlier date and had the necessary labor been available in Brazil. But, apart from the difficulties and tentative methods inherent to every new industry, and the obstacles presented by the unhealthy climate to the introduction of foreign labor—some five years must elapse before the first results can be looked for. By that time, what will be the price of the article? Admitting simply that the actual progress of the Far Eastern plantations will be continued upon the same scale, a new and serious fall in rubber must be foreseen."

ADOPTION OF EASTERN TAPPING METHODS.

With reference to the adoption of Eastern tapping methods, M. Tilmant expresses the opinion that the advantages of modern processes will only exercise any real effect when the system as carried out in the Far East has been fully introduced. This would consist in the establishment of regular plantations, forming blocks containing several thousands of *Hevea* trees, which, by the concentration of their working, would allow of intensive and regular tapping by a relatively small number of native laborers.

Concentrated exploitation being an indispensable factor of remunerative working, M. Tilmant asks whether this method could at present be applied in Brazil to the extraction of wild rubber. He does not regard such a course as probable, the *Hevea* trees being generally in small groups. If the Malayan system were applied, the *seringueiros* would have to remain all the season at the same place, tapping at the most forty or fifty trees every two or three days. In order that their work may be remunerative, they should tap at least 100 to 200 trees a day, which is impracticable, seeing that the *Hevea* trees are scattered in small groups, sometimes at great distances.

SUITABLE LOCATIONS FOR PLANTATIONS.

While expressing doubt as to the general policy of Brazilian plantations, M. Tilmant calls attention to the fact that there are regions not far from Pará where plantations might be established. It would, however, be necessary to choose relatively elevated locations, above the level of inundations and with good facilities of transportation to the point of export. Among the general heads calling for investigation would be that of obtaining labor at a rate which would not be prohibitive. As the climate in the immediate vicinity of Pará is far from being as unhealthy as in the forests of the Upper Amazon, it is considered likely that workers could be obtained on suitable terms for the former region. It is added that the above subjects deserve thorough investigation on the spot.

EXPERIMENTAL STATIONS.

It is recommended to follow in Brazil the policy at first adopted in Ceylon, of being guided by the results shown by the experimental stations, before planting on a larger scale. Trials should be conducted for several years and the results compared with those of the Far East. In the establishment of these experimental stations it is suggested that an examination be made of the chemical composition of the soil, as well as of the drainage. The latter point is indispensable for the successful cultivation of *Hevea*, in view of the height attained by the waters of the Amazon during the rainy season. Another subject of investigation should be the supply of water available in the dry season.

FISCAL MEASURES.

Attention is called to the fact that the graduated reduction of export duty, which would diminish that charge by one-half within five years, would still leave it at 10 per cent., as compared with 2 per cent. in the Far East. Disapproval is expressed of the granting of premiums for planting rubber, as being detrimental to the finances of Brazil.

RAILWAYS.

While the advantages of the proposed new railways are conceded, M. Tilmant asks whether with the unhealthy climate of the districts to be traversed, the necessary labor would be available.

WASHING AND REFINING RUBBER.

Referring to the proposed establishment of washing plants, M. Tilmant remarks that the rubber intended for washing is entirely coagulated and partially dried, expressing doubt as to whether in its new form it would stand a journey without being thereby affected. Washing takes place in the East within at latest twenty-four hours after collection, when the latex has scarcely coagulated. Another point referred to is that the presence of a relatively large quantity of water allows of Pará rubber being kept for years, while plantation rubber, being dry, does not keep so well.

Crude rubber now enters most industrial nations free of duty. M. Tilmant, however, calls attention to the possibility of washed rubber being regarded as a partially manufactured article, and therefore not entitled to such free admission.

PROPOSED RUBBER GOODS FACTORY AT PARA.

M. Tilmant regards as practicable only to a limited extent the idea of establishing a rubber goods factory at Pará. Such a factory, making a variety of articles, would require other grades besides Pará rubber, unless it confined itself to a limited range of products for domestic consumption. This business alone would be insufficient for such a factory.

The export business in rubber goods of Brazilian manufacture is considered problematical in view of the duties imposed by consuming nations.

THE AKERS REPORT.

In criticizing the Akers report, M. Tilmant refers to a prospective rubber cost of 1*s.* 8*d.* (40 cents). This cost is apparently reached by estimating the possible saving as 16*d.* (32 cents) out of the present estimated cost delivered in Europe of 3*s.* (72 cents). He disputes the propriety of including export duties and commissions among the reductions, but if they figure among the elements of cost, any decrease in these items should be

taken into consideration. In the June issue of THE INDIA RUBBER WORLD, page 473, the f. o. b. cost in Brazil was shown as 32½ pence (65 cents), to which the addition of 7 cents for freight to Europe makes the European delivered cost of 72 cents as shown above.

The estimated reduction of 16*d*. (32 cents) out of 3*s*. (72 cents) includes 8*d*. (16 cents) under the head of "augmented production." This figure is specially disputed. M. Tilmant, basing his statement on the facts quoted, expresses the opinion that the introduction into Amazonia of the tapping system of the Far East is scarcely practicable, no increased yield being therefore in prospect from that cause. The cost of production in the Far East, in M. Tilmant's opinion, will constantly diminish, but not that of Amazonia.

As to Chinese immigration, it is pointed out that with a mortality of 30 per cent. among acclimatized workers, the conditions for newly-arrived laborers would be still worse. He further remarks:

"It would seem that Mr. Akers has not sufficiently studied the deadly climate of Amazonia. The question of climate forms the crux of the Brazilian plan, there being a natural obstacle to be overcome."

In conclusion, M. Tilmant adds:

"There is another cause which prevents us from believing in the success of the Brazilian projects. It is that there exist as a fact in Brazil immense reserves of *Hevea* forests, sufficient to furnish the world with rubber. It seems at least Utopian under these conditions to proceed with new plantations. It is just the want of labor which renders impossible the exploitation of these reserves.

"It is under these unfavorable conditions that Brazil is asking the co-operation of foreign capital in the execution of its "Plan of Defence."

As showing the other side of the case, M. Tilmant's remarks afford an opportunity of seeing how the Brazilian proposals are looked at in Europe and particularly in Belgium. A matter of such importance should be discussed from all points, with a view to the best solution of the existing difficulties.

STANDARDIZATION OF LATEX.

In discussing the lack of uniformity in plantation rubber, Mr. Robert T. Byrne, chairman of the Leyland and Birmingham Rubber Co., Ltd., and also chairman of a planting company, lately said planters would never get the proper value, from a market point of view, for their rubber until they had some recognized system of standardizing their latex, so that when the manufacturer bought standard No. 1 quality rubber he did not mind whether it came from Ceylon, or from the Straits, or from Malaya, or from Borneo, or from anywhere else. The rubber should be all the same to him, and he should be able to deal with it in the same way. The existing state of things was, to his mind, nothing short of chaos from the manufacturer's point of view.

AN ENGLISH OPINION ON STANDARDIZATION.

In discussing the above question the "Financier" remarks: "If plantation latex were treated in the same way as the Brazilian collector treats the milk, the product would be fine hard Pará. It is entirely a matter of preparation. Under existing methods it is contended that two essentially different products are obtained in Brazil and in the Orient. But it does not follow that because plantation rubber differs from Brazilian it is necessarily inferior. The manufacturer has apparently not yet come to a definite conclusion himself on this point. The trouble arises out of the fact that no two plantations adopt precisely the same formula and process in treating their latex. It would seem to be a simple matter for a recognized body, such as the Rubber Growers' Association, to frame a standard formula for general adoption in rubber factories throughout the plantation region."

MR. C. A. LAMPARD ON THE SITUATION.

As chairman of the recent London meeting of the Rubber Plantations Investment Trust, Mr. C. A. Lampard stated, regarding the cost of production in Sumatra, that, while the United Serdang Co.'s properties are not nearly in full bearing, the estimate for next year's f. o. b. cost is 11 *d*., while he expects the facts would in due time justify the anticipations formed of a still further reduction. He thought 2*s*. 6*d*. per pound would be a safe figure at which to estimate the cost of producing Amazonian and African rubber.

He further pointed out that the American consumption of crude rubber in 1912 was 50,210 tons, against 34,464 tons in 1911, showing an increase of about 45 per cent. The net American imports this year from January to April had dropped, as compared with last year, from 20,453 to 18,113 tons, or about 11 per cent. This result he considered due to the Akron strike and the floods.

While Brazilian rubber was being held in March and April, plantation companies decided to sell and by getting their rubber into use in the factories prevent any accumulation. As a result, stocks of plantation are now 100 tons less than in February last.

American manufacturers, he added, now that the Antwerp and Brazilian people want to sell in America, say: "No, we have altered our compounds now to suit the use of plantation rubber. Unless you are going to give us very strong inducements, not temporary, but extending over a lengthened period, we are not going to switch back to wild rubber." The prospective decrease in the production of the wild article with the increasing consumption would place plantation rubber in the very strongest position.

In conclusion, Mr. Lampard urged two points: First, that under proper management, plantation rubber can be produced more cheaply in the middle East than in any other part of the world; and second, that the middle East can produce and manufacture rubber in every respect and for all purposes equal to that previously produced elsewhere. Out of an estimated consumption for 1913 of 120,000 tons, the plantation industry expects to produce 45,000 tons.

WHY ENGLISH MANUFACTURERS USE BRAZILIAN RUBBER.

The "London and China Express" lately wrote:

"At present the manufacturers are content to use the Brazilian article because they have not to alter their mixing formulæ, which they are loth to do until they are certain of the qualities of the rubber used. Formerly they were not certain as to the supply; now they require a recognized standard of quality they can work to.

"The reason plantation rubber is not the equal of the wild rubber from a manufacturer's point of view lies in the different methods of curing these rubbers. It is the fact, too, that nearly every plantation company has its own ideas of preparing its rubber, whereas if all plantation rubber were prepared in a standard manner rubber manufacturers would be able much more readily to adopt their methods to plantation rubber than is at present the case."

It is stated that the Rubber Growers' Association expects, after a series of exhaustive experiments, that it will be possible to convince manufacturers that plantation rubber is equal to fine hard Pará.

TO MAKE ENGLISH TIRES IN BRAZIL.

A new company, known as the Dunlop Pneumatic Tyre Co. (South American, Ltd.), has been formed with the purpose of erecting and operating a factory in Brazil for the manufacture of tires. This company, which is capitalized at $25,000, divided into 5,000 shares, is a subsidiary of the English company of the same name.

PLANTATION RUBBER AND DIRECT PURCHASES.

TWO communications in the "Tropical Agriculturist" deal with the questions of the intrinsic qualities of plantation rubber and with the manner in which it reaches the American consumer.

In the first of these, Mr. A. D. Thornton, managing director of the Canadian Consolidated Rubber Co., relates how his first experience in 1905 led to his finding out how to use plantation rubber, in which he is a great believer, being convinced that within a few years wild rubber will prove a very poor second.

In the meantime, he remarks, both planter and consumer have much to study, particularly as to uniformity. A five-ton lot he had lately received from London contained eight very distinct grades, while with several parcels bought direct from Colombo he had no such trouble. He is aiming to find some means of being able to tell what he is buying when offered a parcel by cable.

In the opinion of a New York authority, who does not wish his name mentioned, a margin of about 5 per cent. between plantation and fine Pará is not sufficient, but with a uniform difference of, say, 15 per cent., a greater amount of plantation rubber would be used. He likewise urges the need of uniformity in quality, which he thinks will probably be attained with the increased production anticipated.

Contrasting the advantages of direct purchases as compared with operations via London, he points out that while at that point heavy commissions are paid, inasmuch as rubber has to be warehoused, sampled and repacked, numerous charges of this kind are not incurred at New York. The only expenses on direct shipments would be freight, insurance, selling commission of 1 per cent. and a small charge for weighing and custom house entry. On arrival the rubber would be delivered ex dock, with no more charges attached.

It is added that America uses today the largest percentage of the output of the Middle East, and should not be required to purchase through London.

WHY PLANTATION RUBBER IS CHEAPER THAN BRAZILIAN.

In replying to a shareholder, at the recent meeting of Perak Rubber Plantations, Ltd., the chairman, Mr. Keith Arbuthnot, said that the reason why plantation rubber was selling below Brazilian rubber must be clear to everybody; that the plantation industry had a large crop coming in from day to day, which was put up at auction and sold without reserve, whereas the Brazilian crop was practically all controlled by one hand. Efforts were being made to regulate and improve the selling of the crops from the East. At present there were very many sellers and only about six buyers, but they would very likely be able to reverse that order of things.

HONDURAS RUBBER.

A Honduras report speaks of an offer made to the government by Dr. Fausto Davila, of Honduras. He has asked the sole right during fifty years of gathering rubber, obtained from the *Castilloa, Siphonia Elastica, Hevea Brasiliensis, Manihot Glaziovii* and other varieties which are found in the provinces of Colon, Olancho and Yoro. He likewise asks for permission to gather rubber upon government land. An export tax of 10 per cent. on the value of rubber shipped would revert to the government.

DEPRECIATION OF PLANTING MACHINERY.

At the meeting of the Merlimau Rubber Estates, the chairman reported that while the sum allowed for depreciation of machinery represented for last year 2½d. per pound, the anticipated increase of production would probably reduce that charge for this year to the equivalent of 1d. per pound.

REDUCED BRAZILIAN EXPORT AND IMPORT DUTIES.

BY a Brazilian Presidential Ordinance of June 2, the Minister of Agriculture was authorized to make an agreement with the State of Pará for the exemption of cultivated rubber from export tax during twenty-five years, and the reduction of the export duty levied on wild rubber in that state. An agreement made the same day provided for the reduction of the duty by 2 per cent. on January 1, 1914, and a successive annual diminution of like extent during five years. In this way the present rate of 20 per cent. would be cut in two within the time named.

The Brazilian government has, morever, expressed its willingness to recommend to the Federal Congress, the reduction by at least 20 per cent. of the duties on necessaries imported by the rubber producing territories. These include: condensed milk, kerosene, cordage, fishing lines, fire-arms for hunting, cartridges and ammunition, clothing, provisions and medicines.

AFTER THAT THIRTY-MILLION-DOLLAR TRADE IN SOUTH AMERICA.

THE April issue of THE INDIA RUBBER WORLD contained a full and detailed account of the rubber manufacturing plant which the Goodyear Tire and Rubber Co. of Akron, Ohio—through a subsidiary company known as the Goodyear Tire and Rubber Co., of South America—contemplates building in Rio Janeiro. Mr. J. C. MacFadyean, the vice-president and general manager of this South American company, who has been in this country for the last few months, sailed on August 9 by way of Europe for Brazil, and, being interviewed just before sailing, gave some interesting additional information regarding the company's expectations in that new field.

He estimates that South America consumes $30,000,000 worth of manufactured rubber goods in a year, one-third of this amount being consumed in Brazil. He states that Rio Janeiro alone has 4,800 automobiles and uses up $3,000,000 worth of tires annually. As there is at present no rubber factory anywhere in South America, his company hopes to get this entire rubber business, all of which practically now goes to European manufacturers. He mentioned two tremendous advantages which his company will enjoy, viz., its immunity from the 20 per cent. export tax on crude rubber, and from the 50 per cent. import tax levied on the manufactured article. The cost of the Goodyear plant in Rio Janeiro is placed at $1,300,000, and Mr. MacFadyean estimates that the company will start in about a year's time, with 600 workmen, none of whom will be North Americans except the superintendents and heads of departments.

Mr. MacFadyean thinks there is a great field for Americans on the Southern continent. "American manufacturers," he says, "make a great mistake by not going down there to investigate. In my opinion, and I have traveled over most of the known world, there is no place that offers so many opportunities as South America, and opportunities of so many sorts. England and Germany now control those markets, and it is just because American manufacturers have never gone after them in the right way. We are trying to get American manufacturers to go down there. Land is to be had almost anywhere—and you can get better land down there for 50 cents an acre than you can buy in many Western States at much higher figures, and there are thousands of acres of it.

"It is a mistake to contend that Rio is an expensive place to live. It doesn't touch New York. You can get a suite of rooms and three square meals there or in Buenos Aires for what you might pay simply for the rent of a suite here.

"It is getting time for American manufacturers and exporters to wake up to what is going on down there. If they don't go after that trade energetically soon, there won't be any chance."

Sources of Error in Determining the Acetone Extract in Rubber Compounds.

By Professor W. Jones.

SOME years ago the total acetone extract obtained from a rubber compound, less the free sulphur, was considered as belonging to the rubber in the compound, and as a result we often had an abnormal increase in the percentage of extract above that contained in the rubber used. Whether this was fair to the manufacturer or not, seemed not to be considered. However, as the examination of rubber compound progressed, and paraffine began to be used in the compound, it became quite clear that this method must be modified, that not only the free sulphur should be deducted, but all paraffine and mineral oil as well. This is now the general practice and gives a much more accurate composition of the compound. In making these determinations we find it quite necessary to watch certain sources of error, some of which are still overlooked by many very careful chemists.

To start these determinations, of course the rubber has to be cut fine, not necessarily to pass a certain sized sieve, but should be cut thin, so as not to make the time of extraction unduly prolonged.

The extracting apparatus should be one in which the extraction is made at near the boiling point of the acetone, and where the acetone passes through the rubber at this heat. All joints should be ground glass. We generally use one gram of the dried compound in making the extract.

In placing this in the extractor, we may use either of two methods. First, we may use a Gooch crucible to hold the rubber, or we may use a paper thimble or filter paper. This at first sight might seem to be immaterial, but we do not think so.

If we use a Gooch crucible, we will find that in case the compound contains lampblack, some of this black is carried into the extract. This being black can be plainly seen. We find, too, that a small amount of mineral filling is also carried into the extract. This being white does not show, and is quite likely to be overlooked.

If a paper is used, we can get the extract free from any lampblack or mineral. The only objection to the paper is, that while they are ether-extracted, they still contain much resin, which is given up to acetone, and we have found that before using a paper it is absolutely necessary to extract it with acetone until nothing more is dissolved from it, and that this takes often from two to three days' extraction.

If we use the crucible, it is quite necessary to look for mineral in the extract, and deduct its weight from the total, before proceeding further.

The second point to be observed is the acetone itself. We rarely, if ever, buy acetone that does not give a residue upon evaporation, and it is therefore the practice to redistil it. This, however, must be done within a short time of its use, as it is found that acetone does not keep.

Acetone after careful redistilling, so that it leaves no residue, will, after keeping a short time, develop a yellow tint and again give a residue. This is more pronounced if it has been kept in a clear glass bottle in strong daylight. If it is kept in a dark bottle, there is very little change. We think it better in all cases to test the acetone immediately before using. After taking these precautions we will get a correct percentage of total extract.

This extract will contain free sulphur, paraffine, mineral oil, and organic extract, due to the rubber, and which is saponifiable. In separating the extract into these items, we are again liable to error.

The first thing we do is to saponify with alcoholic potash. This is done in the usual manner, by evaporating over steam.

Upon adding water, and extracting with ether, we obtain an ether solution of the paraffine and mineral oil, while the organic extract remains in the water solution as soap, together with the free sulphur, which is probably taken up as sulphide of potash.

If now we evaporate the ether solution, we will get the combined paraffine and mineral oil; then by deducting this weight, plus the free sulphur, from the total extract, we obtain the organic.

We have found in many cases when the reverse of this has been done; instead of weighing the mineral fats, the soap solution has been acidified and extracted with ether, evaporating this to get the organic, then by taking this organic plus the sulphur, from the total extract, to give the mineral.

We learn that parties using this method have generally found the mineral or paraffine much less than what was used, and they could not account for it. The reason for this is, that they got the organic figure too high, so making the mineral oils too low. This is readily accounted for by the use of alcoholic potash, which has become only slightly yellow upon keeping, when there is found in it what appears to be aldehyde resin, which being saponified, is weighed with the organic from the rubber, making this figure too high.

The free sulphur we determine from the soap solution, after extracting the paraffine, in the following way: To the solution we add a small excess of nitric acid and a few drops of bromin. We then evaporate this down to one or two cubic centimeters, add carbonate of soda in large excess, transfer to a platinum dish and fuse, to get rid of organic matter; dissolve in water and hydrochloric acid, and precipitate the sulphur in the usual way with barium chloride. We thus get all determinations from one extraction.

Recapitulation:

The errors to be guarded against in these determinations are:

1st: In the condition of the acetone used.

2nd: Resin in the paper thimble or filter paper.

3rd: In using a Gooch crucible, the liability of carbon or mineral matter going into the extract and being weighed up as extract.

4th: In weighing the organic extract instead of the mineral. The condition of the alcoholic potash is liable to cause errors. In all these cases the liability is to make the organic extract too high.

We have found that in following these methods, we at times get an extract which might appear to be abnormally low; that is, we find the organic extract to be less than that contained in the rubber used, while the general idea has been that we should in all cases get more; the increase being accounted for by the vulcanization, which is credited with increasing the organic extract in the compound.

This has led us to a long series of tests, to determine why in some cases we get less and in others we get more extract than was contained in the rubber used. We find that if the compound is properly made there is no increase in the organic extract, while as it is usually made, and with the same ingredients, there is a considerable increase. This increase does not take place during vulcanization, as is thought, but during the mixing on the rolls, so that the maximum of extract will be found after mixing and before vulcanization.

We also find that during the vulcanization there is a gradual decrease in the extract, up to about two and a half hours' vulcanization, after which it remains nearly stationary.

When we have taken a rubber with a certain extract, and made a careful mixture, we find there is no increase after mixing and that during vulcanization we have a decrease, so that the final product has less than the original rubber.

Again when we have put the same ingredients into a compound in the ordinary way, we have had a considerable increase after mixing, and the usual decrease during vulcanization. In some cases this decrease may counterbalance the increase, so that the final product will show the same amount as the rubber, while in other cases the increase has been too much to be offset by the decrease, leaving the final product with a higher extract than the rubber.

This decrease we think is due to some of the organic extract being volatile at the heat of vulcanization, so that if there is no increase due to improper mixing, we should find the final product to contain a lower percentage of extract than the rubber used.

TWO NEW KINDS OF RUBBER FOR MEXICO.

IN a late number of the Bulletin of the Mexican Director General of Agriculture, reference is made to a recent study by Professor Ule of two varieties of rubber:

1. *"Manihot Dichotoma"*—Maniçoba—of the valley of Piauhy.
2. *"Manihot Piauhyensis"*—Piauhy and Pernambuco, Brazil.

Commenting on this study, Professor David Thomatis expresses the opinion that these varieties are particularly suited to the tropical districts of Mexico. Their native habitat, in the Piauhy Sierra, is in rocky and stony soil, in argillaceous, sandy and granitic sections, precisely similar to those of the Isthmus of Tehuantepec. The Piauhy Sierra is exposed to much wind, and the varieties mentioned are stated to be low in height.

GROWTH.

There is but little difference between the two varieties, the "Dichotoma," however, being the taller, reaching 40 feet, while the "Piauhy" never exceeds half of that height. It is thus better able to stand the wind, preferring sandy soils and resisting extreme dryness.

On the other hand, the "Dichotoma" prefers argillaceous and calcareous soils. With these new varieties, it is remarked, it will be possible to utilize locations with stiff argillaceous earth and with loose, dry and sandy soil. The saying that nature abhors a vacuum may be paraphrased as implying that she likewise abhors useless soil. It is for man to study how to utilize waste tracts, and in Professor Thomatis' opinion, the varieties of rubber named, which are new to Mexico, will achieve that object.

Both of them shed their leaves during the dry season, when there is more wind, which, however, does not affect them much. They grow rapidly, attaining within the first four months about seven feet, with a trunk circumference of 6 inches, commencing to produce good latex in the third year.

CULTIVATION.

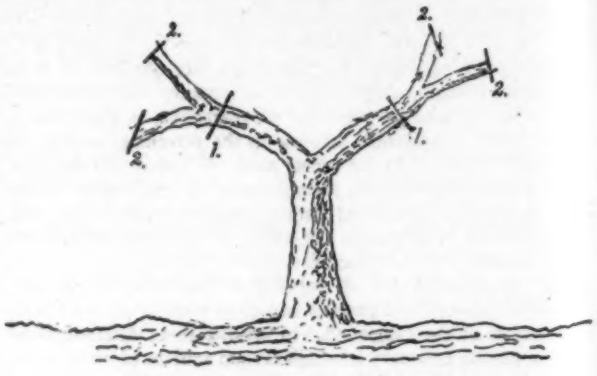
The simplest and most economical arrangement is to plant the trees about 8 feet apart, there being about 600 to the acre. This figure is about four times that usual for Ceará, Pará and *Castilloa*.

In the first year, the plant assumes the shape of a single trunk, which forms in the second year two branches, each of which develops two secondary branches in the third year.

PRUNING.

At this stage, the four branches should be pruned, being left 12 inches in length. Pruning should take place shortly before the rainy season, during which many shoots or buds are put forth. In Brazil, instead of pruning these shoots they are allowed to grow, probably because in the forest conditions they do not grow close together, but at wider intervals.

Upon a systematic plantation, these shoots should be entirely cut every year, thus obliging the secondary branches to give



PROPOSED SYSTEM OF PRUNING.

birth to a new array of shoots. Through this annual pruning the ground gets more light and sun. The annexed figure illustrates the above remarks as to pruning.

TAPPING.

All other varieties of rubber trees are tapped during the dry season. The latex is being formed all the year but becomes finally concentrated when the leaves are falling.

Dichotoma and *Piauhyensis*, on the other hand, require some moisture to develop their latex, and are therefore generally tapped during the rainy season. This fact is attributed to their being cultivated in a dry and well-ventilated soil. In the Upper Congo varieties resembling *Dichotoma* are tapped in both the dry and wet seasons. Dr. Thomatis recommends tapping during the dry season, accustoming the tree to develop and produce its latex at that period, when it would be of better quality and less resinous than at other times. He repeats that with these new varieties tapping can be commenced the third year, while six years is the age to be allowed for *Castilloa*, and about ten for other trees. Each tree in these new categories can produce annually more than 2 pounds of latex, which will give 50 per cent. of excellent block rubber. This, it is added, is twice the yield of any other rubber tree.

ADVANTAGES OF NEW VARIETIES.

To use the author's own words: "All these advantages represent large amounts saved in labor and materials for extensive plantations, and I would venture to say that in this way, if all the above points are taken into consideration, 50 per cent. of the expenses of tapping would be saved. It will easily be seen, that by cultivating these new varieties, the yield per tree only requires three years to be doubled. There are four times more trees to the acre and the expenses of incisions are reduced by one-half.

"In the same way as I recommended Mexican planters to cultivate our own *Castilloa* in preference to Ceará and Pará, so do I today forcibly recommend the cultivation of these two new varieties. I have shown all the advantages as to soil, cultivation, tapping and yield. With these two new varieties there will be produced high yields of rubber in many large districts of Mexico where it has been impossible to cultivate other varieties to advantage. The subject appeals to the inhabitants and property owners of the districts along the Isthmus of Tehuantepec and the Pacific coast from Salina Cruz to Tonala."

THE RUBBER TRADE IN AKRON.

By a Resident Correspondent.

THE annual dull season for the rubber business is now on, and while some of the companies state that none of their help will be laid off, it is reported that in some other plants two eight-hour shifts are being run instead of the usual three, and that working forces will be cut down as trade slows off.

* * *

The seventeen factories engaged in the rubber industry in Akron are said to have employed in 1912 about 22,600 workers, at a maximum wage for men of 60 cents per hour—minimum, for beginners, 17 cents per hour—and for women a maximum of 30 cents with 10 cents for beginners. The capitalization of these seventeen companies is $112,949,000, and of the six largest the total output for 1912 amounted in value to $94,445,000, with an aggregate pay roll for these six companies of $12,022,780.

* * *

A fire which was discovered Sunday night, August 17, in the warehouse of The Loewenthal Rubber Co., destroyed from $25,000 to $30,000 of the company's property before it could be subdued. This company deals in scrap rubber, and the warehouse was well filled at the time. The fact that the windows fell in immediately firemen started to play the hose on the building and that flames in large volume at once burst therefrom, leads to the belief that the fire must have been smouldering for some time, rubber being very slow to catch fire. The office of the company was not damaged, and its business has not been seriously interfered with. A new building will be erected at once to replace this old one-story structure.

* * *

The balata belting and tire departments of The Goodyear Tire & Rubber Co. continue to run day and night. Sales for this year are reported to be 40 per cent. greater than those of last year. This company is working on plans for remodeling the old plant of The Great Western Cereal Co., which will probably be accomplished before the rush of next year's business. H. S. Quine, who has resigned his position as advertising manager of the company to become secretary to the president, F. A. Seiberling, has been succeeded by L. L. King.

THE PLANT OF THE B. F. GOODRICH CO.

Here is the latest photograph of the mammoth plant of The B. F. Goodrich Co., at Akron, Ohio. This is the largest aggregation of factories, belonging to a single rubber company, in the world. It comprises 65 acres of floor space and employs 15,000 operatives. The growth of this company has been the most interesting phenomenon in the entire rubber industry. It was only 43 years ago, in 1870, that the late B. F. Goodrich moved his little rubber factory from the banks of the Hudson to the small but ambitious town of Akron. He bought an unused factory property for $1,800, and he succeeded in borrowing on his note, from Akron business men, $13,000, which was the company's entire capital. It started—with 25 employes—under the name of the Akron Rubber Works, but ten years later the name was changed to The B. F. Goodrich Co., and its capitalization increased to $100,000. A year and a half ago, when it absorbed the Diamond Rubber Co., the Goodrich capitalization was $20,000,000, which, after the absorption, was increased to $90,000,000. It would, of course, be foolhardy to predict what great developments may take place in the rubber industry of this country in the future, but it certainly seems fairly safe to hazard the opinion that never again will a company grow from so humble and feeble a beginning to such great magnitude.

PLANT OF THE B. F. GOODRICH CO., AKRON, OHIO.

* * *

The B. F. Goodrich Co. is to have Goodrich Road Markers on two official transcontinental routes, one of which is by way of the Santa Fe Trail and the other to San Francisco via Denver, Salt Lake and Reno. This company expects soon to have completed the building under erection at Woodward and Hancock avenues, Detroit, Michigan, the anticipated cost of which is $100,000.

* * *

A fire, the cause of which is attributed to spontaneous combustion, and which engaged the entire fire-fighting force of Akron, was discovered at an early hour on the morning of August 11 at the plant of the Goodyear Tire and Rubber Co. It was subdued after a nine-hour struggle by the fire department, having damaged the plant to the extent of $30,000.

* * *

The annual picnic of the Miller Rubber Co.'s employes was held at Cedar Point, Saturday, August 16. The picnickers left Akron on a special train, from which they were transferred at Cleveland to the steamer "Eastland" for Cedar Point. Special

prizes were offered for unique stunts, both on board the boat and on land, and all report a most enjoyable time.

* * *

The Buckeye Rubber Co. (the Kelly-Springfield tire factory) is extending the building of its vulcanizing department and adding three large, new vulcanizing machines, running full force day and night and employing all the men they can secure.

* * *

The Taplin-Rice-Clerkin Co., which manufactures rubber machinery and furnaces, has increased its capital stock from $250,000 to $350,000.

* * *

A. C. Partridge, assistant sales manager of The Firestone Tire & Rubber Co., has started on a six weeks' trip, during which he will visit western Canada, the Pacific Coast and the main towns west of the Mississippi. Mr. Partridge is keeping close tab on the company's business, developing new avenues of trade and promoting enthusiasm among the employees.

* * *

W. W. Smith, formerly with the Faultless Rubber Co., has accepted a position as sales manager of the Star Rubber Co.

* * *

Emil Gammeter, general manager of the Gammeter-Brodbeck Sales Agency, has returned from Europe where he was pushing the sale of shells for holding fabric and aluminum flake.

THE RUBBER TRADE IN BOSTON.

By a Resident Correspondent.

WHEN one speaks of the trade in Boston, it may bring out the pessimistic question—"Is there any trade in Boston?"—for there are those in the rubber business who are just at this time taking a somewhat dreary view of the state of trade. The fact is that things are none too lively, but then, people who know anything about it know that August is the dullest month in the year in more than one line. However, taking into consideration all the facts, business is not so bad, after all, and the outlook for a start-up by the time this letter gets into print is most encouraging.

Trade in hose, especially garden hose, has been excellent all through the spring and summer, but it has let up just now—which is natural. Dealers are sold out, and they must order later, to be prepared for next spring's demand. Belting and packing are going steadily, though moderately. Druggists' goods have a normal and satisfactory call. The boot and shoe business is hardly up to average, which is largely explained by the fact that many dealers, having carried over fair-sized stocks from last season and in the absence of any inducement to order early, have delayed re-stocking; and many thousand cases are likely to be called for later in the season which under other circumstances would have been ordered prior to June 30. The clothing situation is somewhat uncertain, as the tariff is considered likely to interfere with the season's sales, but traveling men are now on the road, and early reports of orders are extremely gratifying. The tire business has been good all the season, and continues so. There has come to be a steady demand for tires which each year begins earlier and extends later, and which is larger and larger each recurring period.

It is somewhat interesting to note the influence of the weather on the fruit-jar ring trade. This was excellent up to July or August, but when the unseasonable weather set in the demand ceased as suddenly as if there never was such a thing as a preserve jar. Surely there are branches of the rubber manufacturing trade which are as uncertain as the weather on which they depend.

* * *

The Patterson Rubber Co.'s new plant at Lowell is now in operation, with a moderate force of workmen, turning out tires which are well spoken of by the trade. The plant is thoroughly modern, new from the ground up, and furnished with the very latest in the way of machinery. It is near the Merrimac River, in open ground, is supplied with an abundance of light and air, and has a spur track which facilitates the receipt and shipment of material and goods. Mr. Patterson is a thorough rubber man, who knows the business in all its details, and he has surrounded himself with a force of assistants, experts and workmen, whose *esprit-de-corps* promises well for the product of the factory.

* * *

The automobile is changing the vacation habit to a marked degree. In former years many men in the trade would take the month of July, or August, or perhaps both, and hie to the summer resorts at the mountains or the seaside. Today it's decidedly different. In place of "stiving" one's family in a three-room suite at a fashionable hotel for a month, and spending his time in the billiard room or on the piazza, the business man concludes that his own spacious home and his own bed and bath are far more comfortable and convenient, while there are resorts near enough to be reached by his own automobile; so he piles his family into his car and starts off for a week-end at the mountains or the sea-shore, and is back again at his home in Boston's suburbs by Monday or Tuesday. Perhaps the family stays at the hotel for a week or two, but not so the business man. The automobile has worked a wondrous change in just this way—and, incidentally, the rubber business gets its share of the benefit.

* * *

The Boston office of the Monatiquot Rubber Works Co., which for some years has been on Atlantic avenue, will be removed to Weld Building, 176 Federal street, October 1, where comfortable and appropriately arranged offices have been secured. Meanwhile, the receiving and shipping department, which occupied the rear of the Atlantic avenue building, with entrance on Congress street, is being fitted and furnished for occupancy by a shoe jobbing house, and the Monatiquot Rubber Works Co. has arranged for all its shipments to be made to and from its South Braintree establishment.

* * *

The Seamless Rubber Co. has discontinued its store at 103 Massachusetts avenue, where it exploited its specialty of tires and inner-tubes, but continues its Boston office at 18 Elm street, where it has hitherto carried only lines of druggists' goods. The Seamless tire will also be carried hereafter at this location.

* * *

The Apsley Rubber Co., of Hudson, has maintained a Boston office at Summer and High streets for several years. Last season the company opened a jobbing house at 520 Atlantic avenue, which is run under the name of the Arco Rubber Co., and here is carried a stock of the clothing and footwear manufactured by the Apsley company. Last month it was decided to unite the two establishments, and so the Apsley Rubber Co.'s Boston office and sample room has been moved to the above named location, where a fine private office is provided for Treasurer Laighton, and suitable accommodations for Messrs. Norbury and Lockwood. This office is in the shoe district, and the move is therefore considered an excellent one.

* * *

The Boston agency for Diamond tires has been transferred from 867 Boylston street to the salesrooms and offices of the B. F. Goodrich Co., which company now manufactures this brand of automobile tires.

* * *

G. Edwin Alden, for many years prominent in the rubber business, has taken an office in the Rice & Hutchins Building, 10 High street, and will deal in crude rubber, also acting as agent in New England for the Standard Asphalt and Rubber Co. of New

York, whose mineral rubber, M. R. X., is so well-known in the rubber manufacturing industries. Mr. Alden has been connected with the rubber trade during his whole business life, either as a manufacturer or as a dealer, and has a host of friends in the trade who wish him renewed success and prosperity in his new enterprise.

* * *

A. H. Elder, secretary of the Boston Belting Co., who has been spending his vacation at Chatham, "down on the Cape," is now back, ready for another season's hustling business. B. F. Elson, assistant manager of the same company, is at present writing at Cape Porpoise, Maine, where fishing and boating are among the vacation attractions.

Another sojourner at Cape Porpoise was William B. Laighton, treasurer of the Apsley Rubber Co., of Hudson. Mr. Laighton is modest and will not communicate to your correspondent any information as to his prowess as a fisherman.

* * *

Charles A. Coe, of the United States Rubber Co., is spending the summer at Annisquam, taking his vacation in installments, coming up to the city on market days, and on other days spending much of the time on his motor-boat, one of the fastest of its class in the harbor.

THE RUBBER TRADE IN CINCINNATI.

By a Resident Correspondent.

LABOR trouble at the various rubber factories throughout the country, followed locally by a strike of teamsters which has continued for several weeks and tied up freight traffic, has resulted in dealers in rubber goods entering the fall trade with very limited stocks, and in consequence business is quiet despite the fact that jobbers are well supplied with orders, being without any way of filling them. The rubber tire houses have no complaint to make, business in this line continuing to surpass that of last year. Perhaps the branch to feel the present labor trouble the most is that of rubber clothing. Jobbers in these goods have hundreds of orders on hand to be filled, but, having only limited stocks, and being hindered in the receipt and shipment of goods, the trade is almost demoralized.

* * *

Ira J. Cooper, head of the firm of I. J. Cooper & Co., who has fixed his metier as tiremaster by distributing in this section one third of the output produced by the Racine Tire Co., spent several days at the company's plant in Racine, Wisconsin, and reports that the plant is swamped with orders, to fill which it is working double shifts.

* * *

An amended bill of complaint has been filed in the United States District Court here in the patent infringement suit of Cecil F. Adamson, of East Palestine, Ohio, against J. Everett Inman and George Inman, doing business as the Victor Inner Tire and Rubber Co., of Dayton, Ohio. The patent involved in this litigation covers improvements in tire vulcanizing repair apparatus. The complainant asks for an injunction and an accounting of damages and profits.

* * *

William E. Schaefer, of the Schaefer Rubber Co., accompanied by his wife, is making a two months' tour of the West. Most of their time will be spent visiting the principal points in Colorado.

* * *

Prosperity of an extraordinary sort is attending the activities of the Motor Supply and Tire Co., at 919 Race street. This concern has undergone a thorough reorganization under the direction of F. W. Stukenberg, manager, and now is part of the chain series whose other links are at Cleveland and Columbus. The business of the local branch has assumed immense proportions, extending to eight of the nearby states.

* * *

B. M. Lovell, manager of the local branch of the B. F. Goodrich Co., has arranged an elaborate display in the huge show windows of the company's branch house at 1110 Race street. The display consists of a reproduction of the mammoth plant of the company in full operation. It is one of the most interesting exhibits seen here and is attracting considerable attention.

* * *

The managers and tire salesmen connected with branch houses in this city have organized a club known as the Queen City Tire Club. The purpose of the organization is to give the members a chance to get acquainted with their competitors, and to promote social intercourse and good fellowship. W. C. Price has been elected president, and Harry C. Falkell, connected with the Goodyear branch, is secretary and treasurer.

* * *

Rudolph Greiss, president of the Western Surgical Supply Co., and who is well known in rubber circles in the state, recently treated his friends to a surprise by announcing that he was secretely married more than a month ago to Mrs. Zesta Wilcox, of Kenton, Ohio.

* * *

The annual convention of the National Retail Druggists' Association, which will be held here the week of August 25, will have, in connection, an exposition in which leading manufacturers of pharmaceutical goods, chemists and surgical instrument dealers will have a big display. The entire ninth floor of the Hotel Sinton has been engaged for the exposition. A number of the rubber factories throughout the country manufacturing druggists' sundries have arranged for space.

* * *

"Vulcorine" is the name of another product just placed on the market by the Vulcorine Company. This is guaranteed to heal a puncture in a pneumatic tire as large as a thirty-penny spike. The main office and laboratory of the company are located in Atlanta, Georgia, but Cincinnati has been selected in which to promote the sale of the new product. H. A. Lonshore, manager—and the inventor—describes his new product as a liquid fiber compound for use in all pneumatic tires. It stops punctures, rim cuts, slow leaks and pinches, does not injure the tires, and is a preservative of rubber. Mr. Lonshore, while here, located a branch at 141 East Fourth street, and also looked over several available manufacturing sites, as the company contemplates moving to this city.

* * *

Following the plans so successfully operated by the Automobile Club of America in New York, and motor organizations at Philadelphia and Louisville, the Cincinnati Automobile Club is about to make an advanced move—that of conducting a motor supply accessory and tire depot in the exclusive behalf of its members. Secretary L. S. Colter visited New York and Philadelphia recently to gather ideas, and after his return the club authorized him to work out the plan in detail and have it in operation by fall. A salesroom is to be obtained and a complete stock of tires and other automobile requisites is to be installed, to be sold at a profit just sufficient to defray expenses of operation.

* * *

The Miller Rubber Co. has entered the local tire field by establishing an agency with the Miami Vulcanizing and Rubber Co. This concern for years represented the Firestone Tire and Rubber Co., but since the establishment of a direct factory branch of the Firestone company at Ninth and Sycamore streets,

the Miami company has been looking around to secure the agency for another good tire concern, as it has one of the best established trades in this city.

* * *

W. G. Brown & Co., distributors of crude rubber, have removed their offices from 701 Provident Bank Building to room 2802 Union Central Life Insurance Building.

THE RUBBER TRADE IN CHICAGO.

By a Resident Correspondent.

A FEELING of optimism again predominates in the rubber trade of Chicago, which for some little time has been extremely dull. An improvement in the mechanical rubber goods line is especially noticeable; and rubber belt manufacturers report some excellent orders from western Canada, where many grain elevators are being built in which to store the abundant wheat crop now being harvested in that country. Local tire men state that the summer's business in automobile tires has not only exceeded that of any previous summer, but has also exceeded their expectations, and that hereafter they will devote greater attention to this branch of the industry. While the weather has not been favorable to the sale of rubber clothing, the popularity of the rubber coat has not been diminished, and the outlook for fall in this line is encouraging.

* * *

Much interest is expressed in the contemplated opening by the Electric Hose Co. of a Chicago branch, but details of the company's plans have not thus far been disclosed.

* * *

Local hose and belt manufacturers, whose contracts for cotton used in these products have now expired, are viewing with some apprehension the making of new contracts, because of the effect the dry weather may have had on the cotton crop.

* * *

A building 121 x 125 feet is soon to be erected in this city by the Mechanical Rubber Co., at West Division street and Claremont avenue. It is intended for store and garage purposes and will probably cost in the neighborhood of $50,000.

THE RUBBER TRADE IN RHODE ISLAND.

By a Resident Correspondent.

AN involuntary petition in bankruptcy against the Consumers' Rubber Co. was filed with William P. Cross, Clerk of the United States District Court at Providence, on July 31, signed by the following creditors: R. L. Curtis, receiver of the Atlantic National Bank, Providence; Brown Bros., of Providence, and John J. Kenyon Manufacturing Co., of Pawtucket. Receiver Curtis claimed that there was due the Atlantic National Bank on money loaned and on promissory notes the sum of $42,685.54, while Brown Bros. declared they held a bill for $4.30 and John J. Kenyon Mfg. Co.'s bill was for $57.

At a meeting of the preferred stockholders of the company, held a few days previous to the institution of bankruptcy proceedings, a report as to the business and financial conditions of the concern was presented by a committee consisting of James W. Freeman, Robert S. Emerson and Percy W. Gardner, previously appointed to make a thorough investigation in the interests of the stockholders.

A statement contained in this report would seem to indicate that the committee was of the opinion that the firm's plant was shut down and the business discontinued to comply with the wishes of Receiver R. L. Curtis, of the Atlantic National Bank. So far as the records and correspondence appear, other creditors or stockholders were not consulted in this action. This conclusion is arrived at after the committee in its report goes into the details of the Consumers' company's business before and after it was taken in hand by the Walpole Rubber Co.

The committee makes fifteen different statements in its report, the first of which is as follows: "From May 1, 1912, to January 1, 1913, the books of the Consumers' Rubber Co., show that they made a profit of $30,067.15. Between January 1, 1913 and July 14, 1913, the books of the company show that they lost $82,774.36."

The report then goes on to show that a substantial loss was made in the wire department, amounting to $10,486.72. The wire mill was equipped so that all sizes of wire from No. 20 to 800,000 circular mill cable could be manufactured, but during the past year changes were made in that department so that only No. 19 wire could be manufactured.

The report shows "other substantial losses," and gives a table in which these are shown. According to this table the largest of these "losses" were: $40,863.44, which was met with in the sale of arctics and gum shoes to S. B. Thing & Co., of Boston; $4,152.56 to E. G. Stearns & Co., credit to equal prices to S. B. Thing & Co.; $3,824.38, tennis shoes sold to S. B. Thing & Co.; $1,378.16, arctics and tennis shoes sold to S. Rosenberg. Another loss was an "extra allowance to get cash" from A. J. Bates & Co., amounting to $700.

The report states "the outstanding accounts payable are approximately $33,020.71 and the outstanding notes payable are $83,079.61. These include notes to the amount of $15,000 which represent money borrowed by the Consumers' Rubber Co. from the Traders' National Bank of Lowell, Massachusetts, and the Atlantic National Bank of Providence, in November, 1912, for the purpose of paying off a $15,000 mortgage."

The report shows a mass of figures, among which are the following: Amounts receivable, according to the company's books, $30,292.30; inventory of raw materials, manufactured goods and merchandise in process of manufacture, as of July 12, 1913, $60,877.12.

The committee then makes some very interesting statements. "The real estate and machinery," says the report, "stands on the books of the company at $164,242.03. It would be difficult to sell the same for $25,000. Trade-marks, good will and patents stands on the books at $360,462.27. Your committee believes that this item of assets has no value."

The report then says that the books of the Consumers' Rubber Co. show that the concern is indebted to the Walpole Co. in the amount of $9,575.75 but in the opinion of the committee this indebtedness should be reduced by $4,700. The committee states that the records of the Superior Court show that the Walpole Co. received $150,000 worth of common stock of the new Consumers' Rubber Co. and that a consideration of this was that the Walpole company should pay a sufficient amount of money to cover the claims of the creditors of the Consumers' Rubber Co., incorporated in 1905. The amount paid was $4,700 and it was paid to Robert S. Emerson, receiver. "But," says the committee, "the Walpole Rubber Co. has charged this item to the Consumers' Rubber Co.'s account, thereby reimbursing themselves."

The committee declared that the mill was closed, goods sold at a sacrifice and other important matters done without consultation with the stockholders. Then comes the reference to Receiver Curtis and finally the recommendation that the concern be liquidated in bankruptcy.

The referee in bankruptcy appointed Robert S. Emerson, an attorney, as temporary receiver and John P. Williams of Providence, James S. Franklin of Bristol and C. W. Littlefield of Warwick as appraisers. Notice was also given that J. H. Lane & Co. of Providence had filed an attachment of $2,500 against the Consumers' Rubber Co. at Bristol.

The factory of the company, which has been closed down for the past five weeks in consequence of having gone into the hands of a receiver, resumed operations on August 20, in charge of the receiver, R. S. Emerson. There are orders for the product of the plant in plenty, and the full complement of upwards of 500 hands will be employed. The plant is being operated by Terence McCarthy of Bristol, the man who instituted the industry several years ago and who now is arranging to work up the raw rubber and other ingredients of the shoe business. Messrs. McCarthy and Emerson expect to operate the mill in full, and permanently, hereafter.

* * *

Col. Samuel P. Colt arrived at his home in Bristol on August 13, after an extended automobile trip with a party of friends, the itinerary including a tour through the White Mountains, Berkshires and eastern New York.

* * *

The big refrigerating plant under construction for the Revere Rubber Co. at its home on Valley street, Providence, is nearing completion. It should be ready for use soon after Labor Day and is expected to prove an important acquisition to the company's equipment.

Electricians have been employed for some time in establishing an extensive auxiliary fire alarm system in the company's new buildings.

H. W. Waite, who is the general manager of the plant, has been on his vacation during the month of August, spending much of the time on his boat, off Cape Cod.

* * *

The Davol Rubber Co. has completed the new factory building which has been added to its plant on Point street, Providence, and has begun the installation of machinery. The ground floor has already been equipped and the rest of the building will be fitted up as rapidly as possible. The new structure is of the highest type of up-to-date mill construction and is designed to give a maximum of light to all parts of each room. It is 281 feet in length, 50 feet in width and three stories high.

The annual outing and field day of the Mikado club, composed of employes of this company, was held at Emery Park on August 3, nearly a hundred participating in the event. They enjoyed a luncheon of shore delicacies early in the day, following which athletic sports were indulged in, a feature being a six inning game of base ball between teams representing the married and single men. The married men won by a score of 8 to 6. Later in the day a Rhode Island clam bake was partaken of.

* * *

Plans have been completed for another new building to be erected at Bristol for the National India Rubber Co. It is to be a one-story brick structure, with cement foundation and saw-tooth roof, and will cover 38,000 square feet. It will be of steel beam construction, with floors of concrete. Large metal ventilators are to be used. Lighting will be by electricity and heating by steam.

The wire department at the factory was shut down on July 31 for a couple of days, to take the annual account of stock. Business in the rubber shoe department is somewhat dull at present, and on August 2 the gum shoe ticket was reduced to fifty cases a day. It was announced that the tennis ticket would remain the same, at 500 cases per day.

* * *

Installation of a steam engine plant has been completed at the factory of the International Rubber Co. at West Barrington, the equipment in regard to boilers, pumps, etc., being in every way complete and strictly up-to-date as to construction.

* * *

The "moonlight sail to Newport and return," so pleasantly anticipated by employes of the Revere Rubber Co. and their friends, was enjoyed in realization by but a portion of the number, either on account of insufficient accommodations or through confusion which occurred at the boat landing, 400 of the 2,400 who had assembled with tickets to take the trip having been left on the pier. Those who were successful in getting on board the boat were served with refreshments and enjoyed all the usual features attendant upon excursions of this kind.

THE RUBBER TRADE IN TRENTON.

By a Resident Correspondent.

THE LEICESTER RUBBER CO., of this city, composed of William M. Maher, Joseph F. Maher and Antonio dePianio, has sold its plant on Perrine avenue to David H. Brand and Joseph Gordon. Messrs. Maher and dePianio disposed of the local plant because of the rapid growth of their business, which necessitated larger quarters. They have purchased a large factory building at Catasaqua, Pennsylvania, and will continue the manufacture of rubber specialties, such as rubber soles, fruit jar rings, mats, rubber heels, etc.

* * *

David H. Brand and Joseph Gordon, who have acquired the Perrine avenue plant, will conduct business under the firm name of the American Rubber Co. and will manufacture specialties, making a feature of rubber soles and heels.

* * *

The Essex Rubber Co. has had plans prepared for a brick and steel building addition to its plant in North Trenton. This will be 60 by 200 feet and one story in height. Work of construction is to be rushed with all possible speed, as the increasing business of the concern demands more working space for its operatives.

* * *

Charles Edward Murray, son of General C. Edward Murray, treasurer of the Empire Rubber Co., and the Crescent Belting and Packing Co., is to wed Miss Louise Morrison, of Pittsburgh this fall. The bride-elect is a daughter of Robert Morrison, one of the millionaire iron men of the Smoky City. Cornell Murray, eldest son of General Murray, is to marry this fall, Miss Mildred Apgar, daughter of former Prosecutor W. Holt Apgar, of this city.

Miss Marguerite Broughton, daughter of John S. Broughton, vice-president of the United & Globe Rubber Co., was married in August to John Zane Batten, of Montclair.

* * *

The local rubber plants are almost without exception running day and night, at full capacity, such concerns as the Empire, Hamilton, Mercer, Thermoid, Home, and Essex Rubber companies, and the Woven Hose Co., and Ajax-Grieb Tire and Rubber Co. being rushed with orders.

The Woven Hose Co. expects to have the building which was destroyed by fire July 4 replaced with a brick and steel structure by November next.

* * *

Serious charges have been brought against a rubber scrap dealer of Trenton. The complaint—made by the Ajax-Grieb company, against Harry Freedman of the Trenton Scrap Rubber Co.—charges him with having bribed an employe of the former company to add extra bundles of scrap on his orders in excess of those supposed to be supplied him, these offences covering a period which extends back to February last. Mr. Freedman's interests are being looked after by former prosecutor, W. Holt Apgar, while the state is represented by Prosecutor Devlin.

* * *

The Rubber Workers' Union, formed in Trenton last March, is now said to be one of the largest in the city, having steadily increased in membership. Meetings are held weekly, on Monday evenings, in the Ribsam building.

* * *

A novel use for a discarded fire engine was that devised re-

cently by John E. Thropp, president of John E. Thropp's Sons Co. and a director of the Eureka Tire Co. This engine was used to pump water from the Delaware river into ditches which had been dug through his potato patch, the potato crop being endangered by drought. The plan is said to have been entirely successful.

* * *

Rumors that have been afloat regarding the contemplated removal of the India Rubber Co.'s plant from New Brunswick, New Jersey, to New York City, have been denied by Mr. W. L. Melvin of that company, who explains that these have arisen probably from the fact that its laboratory is to be transferred to the city, where a new building has been erected for its accommodation. The factory will continue to be operated at New Brunswick, as heretofore, with a force of about 300 operatives. This laboratory removal will transfer from New Brunswick to New York some of the bright young men of the former city, 30 of whom are expected to continue their work in the new quarters, where also any of the young women now employed by the company in this department will be transferred should they desire.

THE RUBBER TRADE IN SAN FRANCISCO.

By a Resident Correspondent.

WHILE the rubber trade in this city is somewhat slack, as usual at this season, manufacturers are well satisfied with the prospects of an early trade revival.

* * *

The local industry has just lost one of its most popular members, by the death of C. H. Chase, manager of the Bowers Rubber Works. Mr. Chase was sixty years of age, had been with the Bowers company for seven years, and was highly esteemed by all who knew him. His death, which was due to heart failure, terminated an illness of only a few days.

* * *

The injuries sustained by R. D. Barr, manager of the Firestone Tire & Rubber Co.'s Los Angeles branch, in the automobile accident at Encinitas recently, resulted in his death, physicians being unable to check the progress of blood-poisoning which was caused by the fracture of his leg. Mr. Barr was well known not only in Southern California, where he has met with excellent business success, but in New York as well, having been previously connected with the Firestone company at that point.

* * *

A. J. Straney, who some time ago left the employ of the Diamond Rubber Co. to take a position with another concern, has returned to the employ of the Diamond company.

W. D. Albright, who has been in charge of the company's branch at Sacramento, has been transferred to the Portland, Oregon, house operated by this company, in a similar capacity.

* * *

The factory of the Goodyear Tire & Rubber Co. is being operated at full capacity and reports a very satisfactory business.

J. E. Argus, newly-appointed agent of this company for the Pacific Coast, has recently returned from a visit to the factory, and assumed his new duties, for which he is especially qualified, having been for sixteen years connected with the Diamond Rubber Co., for some time past in charge of its Pacific Coast Mechanical department.

* * *

Mr. Bennett, president of the Los Angeles Rubber Co., visited this city late in August and bought out the stock of rubber goods on hand at the store of Eccles & Smith Co.

W. L. Eaton, with the San Francisco office of the New York Belting & Packing Co., has gone to the Hawaiian Islands on a trip in the interests of the firm.

* * *

W. J. Gorham, president of the Gorham Revere Rubber Co., is now in Seattle, Washington, looking after the interests of the firm in that territory. He writes that conditions in the Northwest are very favorable.

* * *

The Pneumatic Hose Co., of Chicago, has given up its branch store on Howard street, and Mr. Anderson, the manager, has returned to Chicago.

* * *

The Acme Rubber Co., incorporated with the object of putting on the market a new substitute for rubber, has closed down, temporarily at least, owing to internal dissensions. This firm had installed some special machinery and appeared to be successful. The substitute is a mineral compound, prepared in a certain patented manner which produces an article to all outward appearance much like genuine rubber.

* * *

The Perfection Autotube Co., of Colorado, located at Denver, has dissolved partnership.

* * *

The Diamond Rubber Co.'s branch at Oakland, California, will be managed hereafter by Mr. W. A. Knapp, who has been for a long time connected with Diamond tire interests.

* * *

The Goodyear Tire & Rubber Co. is erecting a factory building at Seattle, Washington. The latest Goodyear plant is to be of modern construction, two stories high, with basement, and will give a total floor area of about 10,000 square feet. It is located at Eleventh avenue and East Pike street.

* * *

The Savage Tire Co., of San Diego, California, is one of the most prosperous and progressive concerns on the coast. It is also thoroughly loyal to San Diego, its entire plant, building materials, machinery, etc., having been purchased from home firms, and all its factory operatives being obtained from the home supply. The company is said to carry a stock of rubber valued at $100,000 and to be making every day 400 tires and 400 inner tubes.

* * *

Recent California incorporations in industries employing or associated with rubber are:

The Oakland Tire Company, at Oakland, California.

The National Cushion Inner Tire Co., at Los Angeles, California.

The Vinson Indestructible Pneumatic Tire Co., at Los Angeles, California.

The King Rubberoid Co. at Los Angeles, California.

LARGE PRIZE FOR A GOOD AUTO-TRUCK TIRE.

If there are any American inventors who are hoping to submit automobile truck tires to the Austrian War Department for the $10,000 prize that the Austrian Minister of War has offered for the best tire of this sort, they must use some expedition in entering their designs, for the competition—which is open to people of every nationality—closes on October 1 next. The prize is offered for a tire which will combine the greatest cheapness with durability. Those who contest are required to furnish models in either natural or in reduced size, together with proper drawings and descriptions.

Interesting Letters From Our Readers.

WHAT LONDON RUBBER SCHOOLS ARE DOING.

AN editorial which appeared in the June issue of THE INDIA RUBBER WORLD, entitled "The Best Rubber School," has attracted the attention of some of those interested in technical rubber instruction in English schools, as is shown by the letter reproduced below, from Frederick Kaye, A. R. C. Sc., Lecturer on the Chemistry of Rubber in the Northern Polytechnic Institute, Holloway, London:

Research & Analytical Laboratory,
2, St. Dunstan's Hill
LONDON, E. C., June 23, 1913.

The Editor INDIA RUBBER WORLD,
New York.

Dear Sir:

In your June number you make some comments upon the inauguration of the School of Rubber at the Northern Polytechnic Institute, Holloway, London. Perhaps you will be interested to know that the courses on rubber chemistry, rubber manufacture, and analysis, etc., are fulfilling a very useful role in England. There has never been any idea of taking the place of the real practical school of the factory of which you speak so well.

It should be remembered, however, that London is the centre of a world-wide financial and commercial activity associated with the production, importation, sale and distribution of crude rubber, as well as having many important rubber factories within its borders. The directorates of the innumerable rubber producing companies are constantly needing young men to go abroad as plantation assistants on many of the Eastern plantations. Hitherto most of these young men have gone out without any scientific knowledge of rubber and its production.

The students who have enrolled themselves at the School of Rubber have found the opportunities it affords of great service to them. Amongst the students taking the day course are sons of rubber manufacturers, who are intended to take a place in their father's factory or laboratory; young foremen of rubber works wishing to widen their knowledge on the scientific side; young men preparing for plantation appointments, as well as assistant chemists home from the East, using the opportunity to keep pace with the scientific advancements in Europe and to take up some parts of practice and theory which experience has shown they need.

The evening students, who are by far the most numerous, are all men actively engaged in some branch of the rubber industries. They are foremen of works, travellers for rubber brokers, chemists, or rubber manufacturers, samplers at the wharves, clerks in rubber offices, etc. These all find that the scientific study of methods of manufacture, and of the materials which they are dealing with daily, is of great help commercially.

Your esteemed journal is, in a sense, a school of rubber, while our school is a personal, immediate, practical one.

Yours faithfully,

FREDERICK KAYE,
Lecturer on the Chemistry of Rubber, Northern Polytechnic Institute, Holloway, London.

ANOTHER VIEW OF THE PUTUMAYO MATTER.

July 10, 1913.

To the Editor of THE INDIA RUBBER WORLD:

Dear Sir: In your July issue, the following paragraph occurs under "House of Commons Committee on Putumayo Horrors:"

"The committee further expresses the belief that the Putumayo incidents are but a shocking instance of the conditions that are found over a wide area in South America."

As a manager of a large rubber property in the Amazon basin for over five years, permit me to make a few observations on this so-called inquiry into alleged atrocities.

First of all, I may state that no person in the Amazon Valley, intimately connected with the conditions surrounding the exploitation of wild rubber, believes the statements in the Casement Report, the basis of which is testimony given by Indians, half breeds, Barbadian negroes and some whites who had ulterior motives in formulating such allegations.

Any sane person must see at a glance that as the report states the Arana Estate had to give advances to the rubber pickers in order to get supplies of rubber, it would be worse than folly to injure or destroy the debtors of the company, after they had the advances mentioned, to say nothing of it being bad business.

In all my experience I have only heard of one company that abused the Indians in the Amazon Valley; and curiously enough, it was an English company, with the usual titled person for a chairman. This company used to make raids on the outlying portions of its neighbors' property, surprise the Indian rubber pickers, seize them, take them to the English property and there place them in the stocks, for safety for a time, then place them away in a Barraca to pick rubber for their company. This illegal seizure was made under the pretence that the said Indians were indebted to the English company.

It is true that abuses creep into every administration of a property where it is situated far away from headquarters, difficult of access; and those abuses are aggravated when the company has to depend on an ignorant half-breed batch of superintendents.

While one hears a great deal from the English press of the alleged Putumayo atrocities, they say nothing about the advantages a rubber picker enjoys who works under the Amazon conditions, and how much better off he is than the Eastern plantation coolie, or even better off than the best paid English mechanic.

Take my own case. On assuming the management of the property I found some minor abuses against the Indians, by the half-breed overseers, but the greatest abuses were against the company itself. I fired everybody, broke up the contract system, and dealt with the rubber pickers as individuals, and placed over them reliable overseers; in addition to making other alterations.

The result of this system was that each rubber picker was dealt with as an individual; and they came to the property of their own volition, walking over the worst trails in the world, for several days, in order to reach it.

On arrival at headquarters on the property, the picker, without any agreement beyond his word of honor, was given rations, a shot-gun and rubber picking tools; and from 150 to 300 trees to pick (this latter varying according to the ability and activity of the picker); and then he disappeared into the forest to carry on his work. The only superintendence he had was to see that the trees were properly picked without destroying them, and that he did not get sick; and if he did to bring him into the headquarters, treat him and cure him free of charge. Every week, the picker delivered the rubber he had picked to headquarters, sometimes making the deliveries every two weeks or longer according to distances he must travel.

On delivery the rubber is weighed on a Fairbanks scale (the weigher being a fellow rubber picker). The amount received is credited to the picker, and an entry made in a small book, given to him for this purpose. He then goes to the store, taking his book along, and after he makes his purchases he is debited with same in his book. The account is balanced at once, and if he has a balance in his favor he can draw it out in cash at once, or leave it until the end of the picking season, which they usually do. After making his deliveries of rubber and purchases of merchandise, and the entries being made in his book, they are copied in the journal and ledger, and the book handed back to the picker, who takes it to the forest with him again, until he comes out with the next delivery of rubber.

In addition to the above, and as a part of the system, a good druggist and medical outfit are kept on hand, and all is free to everyone on the property. No alcohol or cocaine is allowed or permitted to be used by the pickers or others; and the management sees that the pickers are well fed.

The result of this treatment, physically, industrially and financially, is that the pickers who arrived on the Hacienda in a half-starved condition, sometimes sick and always "broke," have their productive capacity increased from 50 per cent. to 100 per cent. They are kept in good health and spirits, have ambition to work and acquire something; and there has never been a rubber picker who has left the property, at the end of the season, without a substantial balance of cash in his pocket, varying from $100 to $500, United States currency. Any picker who cares to work fifteen days out of the month can earn from two to five dollars

United States currency a day. The pickers are well provided for, armed and free to run away at any moment, but never do. From the above it will be apparent to the least informed that the rubber picker is infinitely better off and better paid than the English mechanic, while there is no comparison between his free and independent life and that of his contract coolie brother on the Eastern plantations.

I have followed this English inquiry of the alleged Putumayo atrocities from beginning to end, have read the book published by the Aborigine Protection Society, on the subject; and to my mind all the evidence adduced condemns those who gave it against Arana, more than it convicts Arana on any serious charge other than neglect.

For instance in the evidence given by Mr. Hardenburg, he admitted that after he had heard of the alleged atrocities governing the collection of rubber in the Putumayo, he was willing to buy or acquire a half interest in the adjoining rubber property to Arana. If he knew that rubber could only be secured by such outrages, why did he want to share in the business? Again, an officer, who had been, or hoped to be, appointed to go to Peru, to investigate the said alleged atrocities on the Arana Estate, came to Senor Arana, and asked him to give him £1000. This request was made in writing and the original and a copy of the letter were produced at the inquiry. As he had performed no service for Arana up to that time, we can assume that he had his own idea as to what was the best way to make money out of the Arana charges.

Again when we remember that these charges were sprung on the public at the beginning of the rubber boom; and that the English papers took up the cry and yelled "Red Rubber! Slave Rubber of the Amazon! Don't invest your money in slavery! Come to the East, under English rule, where we have a well organized system of contract labor," and so on, it tempts the Amazon exploiters of wild rubber to ask whether they were simply willing or unconscious tools of the promoters of rubber properties, who used the cry in their efforts to reach the pockets of the investors and boost the Coolie colonies of the East.

F. J. D.

HAMILTON INCREASES RUBBER GOODS TRADE WITH UNITED STATES.

Exports of rubber goods to the United States from Hamilton, Ontario, were: 1911, $1,559; $1912, $8,028.

AMERICAN CAPITAL PREFERRED IN LIBERIA.

The acquisition by an English company of a concession for gathering rubber in Liberia was reported in the August issue of the INDIA RUBBER WORLD, page 591.

Further particulars received show that an effort was made during the last legislative session to pass a measure prohibiting the shipment of contract laborers, the failure of which is attributed to the fact that the receipts from this source constitute part of the Liberian revenues. The practice of shipping laborers from Liberia has aroused complaints from the commercial and agricultural interests of the country.

It is said that American capital would be considered preferable to English for cultivating the resources of Liberia. There is little or no capital in that country available for the purpose.

THREE YEARS' RUBBER STATISTICS.

BY the figures given below three years' progress of imports and exports is shown, the returns being brought down to the close of the last fiscal year, June 30, 1913. The total imports of unmanufactured rubber in 1913 represented about $101,000,000, against $105,000,000 in 1912, and $93,000,000 in 1911. These amounts include for 1913, crude rubber to the extent of 113,000,000 pounds, value $90,000,000; as compared with 110,000,000 pounds, value $93,000,000, in 1912. Conditions do not seem to have materially altered in rubber between the two last years, while balata shows a falling off, and Guayule imports have been reduced by about 50 per cent., as compared with 1911, the figures now being less than half of that for 1911.

A large increase is shown in the imports of scrap, which are for 1913 nearly double those for 1912.

While the exports of domestic manufactures for 1911 and 1912 remained practically the same, the figure increased for 1913 by about 12 per cent., the gain having been practically in automobile tires. Re-exports of foreign goods show a slight falling off for 1913, as compared with 1912:

THREE YEARS' RUBBER IMPORTS. (FISCAL YEARS TO JUNE 30.)

	1911.		1912.		1913.	
Unmanufactured.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
India-rubber	72,046,200	$76,244,603	110,210,173	$93,013,255	113,384,359	$90,170,316
Balata	878,305	624,702	1,517,066	984,012	11,318,598	766,772
Guayule gum	19,749,522	10,443,157	14,238,625	6,463,787	10,218,191	4,345,088
Gutta jelutong	51,420,872	2,872,633	48,795,268	2,255,050	45,345,338	2,174,441
Gutta-percha	1,648,921	390,548	1,204,406	225,797	480,853	167,313
India-rubber scrap or refuse	26,948,000	2,334,870	26,293,192	2,095,605	43,385,456	3,709,228
Total unmanufactured imports		$92,910,513		$105,037,506		$101,333,158
Manufactured		$936,408		$915,834		$1,294,536
Foreign re-exports				$5,070,042		$4,689,000

THREE YEARS' RUBBER GOODS EXPORTS. (FISCAL YEARS TO JUNE 30.)

	1911.		1912.		1913.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Scrap and old	7,049,729	$723,664	7,356,984	$780,188	7,269,465	$880,442
Reclaimed	4,994,527	781,650	5,397,806	875,501	5,413,247	932,904
Belting, hose and packing		2,163,416		2,315,424		2,605,551
Boots and shoes pairs	3,984,332	2,219,430	pairs 2,545,076	1,502,890	pairs 109,528	274,330
					2,231,467	1,163,953
Tires for automobiles		2,085,107		2,657,809		3,943,220
Other tires		592,470		546,833		611,458
All other rubber goods		3,886,825		4,144,273		3,913,036
		$12,452,562		$12,822,918		$14,324,894

Rubber and the Fisherman.

MANY people have an idea that Izaak Walton knew all that has ever been known about fishing; but that is a great mistake. He undoubtedly knew all that there was to be known up to his time, but his time was over 200 years ago. He knew all about the joy and exhilaration of the art, but little about its comfort, or what we might call its civilization, for Mr. Walton died over 100 years before Goodyear was born, so the Walton outfit contained no rubber—and to the modern fisherman rubber is nine points of the sport. It certainly constitutes 90 per cent. of his necessary outfit. It forms the major part of the fisherman's requisite accoutrement, a considerable part of the accessories of the art; and, if the fisherman so elects, it may constitute the whole of his bait—as will be proved as we proceed.

A RUBBER FISHING SHIRT.

Fishing is a moist pastime. There is no escaping from that self-evident fact. What with the down-pours that the angler is bound to encounter, with the fording of streams, with wading into pond and lake, and the more or less frequent tenancy of leaky boats, it cannot be questioned that fishing is wet work—or would be if it were not for the thoughtful rubber manufacturer. He has arranged it so that the fisherman can stand out in a deluge like Noah's or wade in water to his waist, and still keep as dry as a chip. To begin with, in enumerating the various rubber articles that enable the fisherman always to stay dry regardless of his environment, there is the long rubber shirt that buttons closely around the neck, with elastic "risbands" fitting the wrist snugly, and which hangs in graceful folds almost to the feet. This is proof against a cataract of water. Next might be mentioned the fisherman's rubber hood, which comes closely down over his head, buttons under his chin, makes it absolutely impossible for any water to get down his neck, has a visor that covers his face, and in fact gives him absolute protection, at the same time not obstructing his vision. With the hood and the shirt he is dry to his ankles.

A FISHERMAN'S RUBBER HOOD.

Then for the fisherman's feet most abundant provision has been made. Every considerable manufacturer of rubber footwear makes fishermen's boots, light and heavy, with legs stiff to the knee and soft and pliable from there up, the upper part being held in position by loops that may be attached to a belt around the waist. For professional fishermen who stand in the water a great deal, body boots are made, which come 'way to the shoulders under the arms, making it possible for a man to immerse two-thirds of himself and yet escape all moisture.

In addition to the boots there are various styles of "waders" made, which are considerably lighter and therefore preferable in the view of some fishermen. There are wading stockings—very light, weighing less than a pound a pair—that come to the waist and are attached to the belt by a loop. Then there are wading trousers that are sustained by suspenders or by a belt around the waist. These also are light, some of them weighing not more than a pound and a half. Both the stockings and the trousers, as a rule, requires a pair of shoes; and rubber shoes are made expressly for this purpose. These are quite similar to ordinary heavy rubbers in their construction, but they are somewhat stouter and have heavy corrugated soles and hob nails in the heels, so that the wearer will not slip on uncertain bottoms; and they have, in addition, a strap over the instep, so that they will remain securely on the foot.

RUBBER WADING SHOE.

All of these articles can be had in light weight, so that they add very little to the fisherman's burden, and they can all—except the shoes—be folded up into exceedingly small compass and tucked out of the way when they are not needed.

So much for the thoughtfulness of the rubber manufacturer in providing the fisherman with personal protection. But rubber does not stop here. It supplies him with untold conveniences. For instance, there is the rubber fish bag that hangs by his side, with strap to go over the shoulder. This is made waterproof, not so much for the purpose of keeping water out as for keeping it in, the intention being that the fish when caught can be put into this bag with wet grass or moss and thus be kept fresh indefinitely.

But it is not enough to provide for the external comfort of the fisherman. His internal condition must also be looked after. It is not necessary to intimate here that thirst is a distinctive characteristic of the fisherman, but it is a condition to which all human beings are liable and even the angler must succumb to it at times. And to provide for this contingency the rubber manufacturer has produced a variety of collapsible rubber cups that have vastly the advantage of metal because they occupy no room in the pocket, do not rust and are so easily cleansed. These are made in the shape of a tumbler and in the shape of a canoe, but whatever the shape they serve a most useful purpose.

Another rubber device of great convenience to the fisherman—particularly to the one casting in surf fishing—is the flexible butt pad, made of soft rubber, which he can attach to the butt of his rod. This flexible pad has a wide base with a corrugated pattern, which, when pressed up against the body, prevents all slipping. Another rubber accessory—or at least one made partially of rubber—which trout anglers find extremely convenient, is the wading net with elastic rubber sling that goes over the neck. The net is sustained in this way until it is found necessary to scoop in the reluctant trout, when, with the sling still around the neck (its elasticity permits the net to be used in any position or at any distance), the fish is lifted out of the water.

RUBBER BAG FOR FISH OR GAME.

Hard rubber, too, is brought into play to a considerable extent to make fishing a comfortable and agreeable pastime. A hard

rubber socket or cup attached to a belt serves as a rest for the fisherman's rod and gives him the free use of one of his hands. Or if he is in a boat this socket can be removed from the belt and fastened to one of the seats. Again, a very considerable part of the reel is often made of hard rubber. This is particularly desirable for salt water fishing. It is obvious that all these hard rubber articles have a great advantage over similar appliances made of metal, which may rust, or of leather or cloth, which wear out and tear.

HARD RUBBER SOCKET FOR POLE REST.

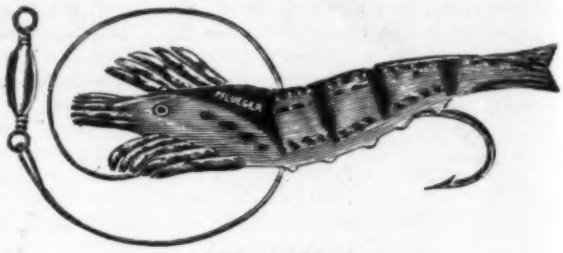
But it is only when we arrive at the important—not to say momentous—realm of bait, that we discover the really masterly achievements of the rubber manufacturer in behalf of the fisherman. The rubber factories are turning out rubber bait in perfect imitation of every living creature—crawling, flying, swimming—that is known to appeal to the palate of any desirable fish. There are angle worms, grubs, flies, bumblebees, grass-hoppers, hellgrammites (if you have never seen this insect its name sufficiently describes it), minnows, shiners, crawfish, frogs, shrimp, wagtails, pollywogs—and more and more—all of them so natural as to out-nature nature. Some are made solid and some are made hollow and collapsible, practically concealing the hook to the vision—but not to the voracious bite.

Here are a few illustrations of various rubber baits, but they do not begin to show the delicacy and accuracy with which nature has been duplicated. It is quite safe to say if one of these rubber minnows or crawfish, or what not, were to meet his natural counterpart in the water, neither one of them would be able to tell which one he was. It would be interesting to describe all

A SWIMMING AND KICKING FROG.

these various vulcanized creatures, but there is hardly space to do so. The frog, which is herewith illustrated, however, certainly deserves some mention. The frog, as every fisherman knows, is considered a great delicacy by the bass and pickerel; and this particular frog, which kicks and swims, is in reality much more alive than a natural live frog, for the natural frog, having hooks put through his lips and posteriorly, kicks and squirms for only a few minutes and then with great bitterness of spirit gives up the ghost—while this rubber frog, which is used in casting, keeps on kicking and swimming indefinitely, as long as the line to which it is attached is being pulled in. There is one great advantage about this frog—its weedlessness. It will be noticed that the points of the hooks are protected; and that, together with the fact that the animal straightens out every second or two, makes it impossible for weeds to collect.

Another piece of rubber bait, not mentioned above, is the mouse, made in white or gray. A mouse is greatly appreciated

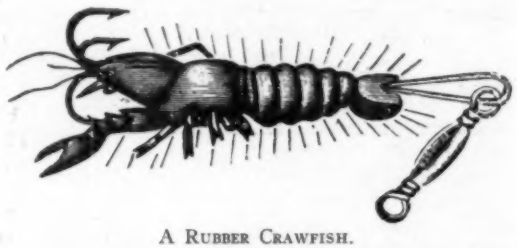


A RUBBER SHRIMP.

by the black bass. Just how he came to develop this appetite is rather uncertain, because mice, as a rule, do not expect to spend much of their time in the water; but the black bass will go a great distance to secure a mouse—and these rubber mice with real mice skins over the rubber prove a very successful lure.

All these various animals and insects are colored with extreme naturalness. The minnows, for instance, not only have the right colors above and below, with greenish backs and silver bellies, but they are finished off with scales.

Rubber bait has many distinct advantages over bait provided by nature, but particularly because it is indestructible, and once in the bait box averts all further necessity of digging more.



A RUBBER CRAWFISH.

And then there is the humane aspect, which may not appeal to many fishermen but undoubtedly does to some. The well-disposed human would certainly prefer using a piece of rubber—that positively enjoys being punctured and pricked and pulled and jerked and drowned—rather than subjecting a living creature, even tho a frog or a mouse, to these harrowing and necessarily painful experiences. So, while the rubber manufacturer in devising this sort of bait undoubtedly had in mind only an increased product and an enlarged field of profit, he has, as a matter of fact, proved distinctly a humanitarian.

So, as said at the beginning, while Izaak Walton was something of an angler in his way, there is a vast deal in fishing

A RUBBER MOUSE.

as conducted today of which he was totally ignorant. Most modern fishermen, if they had to go out for a bass or trout without a rubber hat, and a rubber shirt, and rubber boots, and rubber bags, and rubber cups and rubber bait, would think the situation pretty hard. A good many of them would be likely to drop fishing and take up golf.

News of the American Rubber Trade.

WHY THE MILLER RUBBER CO. INCREASES ITS CAPITAL.

THE August issue of this publication called attention to the fact that the stockholders of the Miller Rubber Co., of Akron, Ohio, had voted to increase the capital stock from $1,000,000 to $2,000,000, $500,000 of the increase to be in 7 per cent. cumulative preferred stock, the rest being common stock. The reason of this increase in capitalization is found in the large increase recently made in the factory buildings and facilities. The addition to its plant has doubled the factory's producing capacity. This increase was necessitated by the growth of the company's business, which during the first seven months of the present fiscal year advanced 55 per cent. over the same period for last year. The company will now be able to make 1,000 pneumatic automobile tires per day, and has doubled its capacity in molded surgical and sundries departments.

MR. DUNLOP AT THE GOODRICH FACTORY.

Among the recollections of the recent joint convention of the American Society of Automobile Engineers and the English Institute of Automobile Engineers, none is more vivid than that of the visit to Akron of a party of members from the two bodies. This visit had been carefully planned, its details having been arranged by the advance guard of the Goodrich Reception Committee, who visited Detroit for the purpose of formally extending the invitation.

Upon arriving at the factory the visitors (about 80) were divided into groups of twelve and enjoyed a thorough inspection of its many interesting features, thanks to the excellent arrangements made by W. O. Rutherford, assistant general sales manager.

One of the noticeable and appropriate features of the day was the presence among the visitors of Mr. J. B. Dunlop, the veteran inventor of the pneumatic tire. From his ideal to its realization at the Goodrich factory with its 9,000 tires a day is a "far cry." His interest in this great factory with its vast production of tires can readily be imagined.

An excellent page of photographs illustrating the visit is a feature of the July number of "The Goodrich," an interesting publication issued by the Goodrich company, and will serve as an interesting souvenir of this memorable occasion.

DIVIDENDS PAID BY RUBBER COMPANIES.

The directors of the Boston Woven Hose and Rubber Co., of Boston, have declared a quarterly dividend of $3 per share on the common stock of the company, payable September 13 to stock of record September 5, 1913.

The Plymouth Rubber Co. of Canton, Massachusetts, has declared a quarterly dividend of $1.75 per share on its preferred stock, payable September 1 to stock of record August 25, 1913.

The B. F. Goodrich Co. has declared a quarterly dividend of 1¾ per cent. on its preferred stock, payable on October 1 to stock of record September 20.

KATZENBACH & BULLOCK COMPANY ELECTS OFFICERS.

At a meeting of the board of directors of the Katzenbach & Bullock Co., Inc., held in the main office of the company in Trenton, New Jersey, August 13, the following officers were elected to fill the vacancy caused by the death of Welling S. Katzenbach: Edward L. Bullock, of New York, president; Frederick F. Katzenbach, of Trenton, vice-president and treasurer, and Robert F. McGrory, of Trenton, secretary.

The United States Tire Co. is now occupying its new building at 2109 Commerce street, Dallas, Texas.

BUSINESS GOOD WITH THE HOOD CO.

If there is any such thing as business depression in the country, it does not seem to have reached the factory of the Hood Rubber Co., Watertown, Massachusetts. The company's business for the first six months of the current year showed a gain over the corresponding six months of 1912 of more than 15 per cent.—and the business of 1912 exceeded that of any former year. The company closed down its factory early in August for the usual ten days' vacation.

FIRESTONE TIRES ON MANY WINNING CARS.

The Firestone Tire and Rubber Co. certainly has no reason to complain at the record established by the company's tires in the various automobile races that have taken place this summer. In the 500-mile International Sweepstakes at Indianapolis, May 30, first and second places were won by cars equipped with Firestones. Firestone-equipped cars took first, second and third places in the Panama-Pacific road race on July 4. Firestones were also on the winning cars in the three Montamara Festo races of July 5 and 7; and at the Santa Monica race at Los Angeles, on August 9, the first and second winners were equipped with these tires, the time made being over 73 miles an hour.

THE ADAMSON CO. GETS AN INJUNCTION.

The Adamson Mfg. Co. of East Palestine, Ohio, was recently granted an injunction to restrain the Marshall Iron Works from making or selling a portable tire vulcanizing device infringing on U. S. Patent No. 1,057,911.

TRADE NEWS NOTES.

The addition now under way at the Elm street plant of the Rubber Regenerating Co. at Naugatuck, Connecticut, will enable the company, when completed, to double its present output.

A strike of the raincoat workers at the factory of the Wilson Manufacturing Co. at 134 Main street, Yonkers, has led to the arrest of several strikers. Similar difficulties have been going on in New York for several weeks, the workers contending, through their union, for a forty-eight hour week at 75 cents an hour. The Wilson brothers, who only recently removed from New York to Yonkers, declare that they will not make any agreement through the union.

The rubber plant of the W. G. Hendrie Rubber Co. at Torrence, California, has been completed at a cost to the company of $180,000, and was formally opened on August 16.

The use of motor vans has been adopted by the post office department at Rio Janeiro, where six cars of this class, imported from Germany, are now in use; and it is the intention of the government, should the operation of these trial cars be found economical, to install them generally throughout Brazil.

A company is being organized at Columbus, Ohio, for the manufacture of a new motor truck tire. One of the new features about this tire—which is covered by patent—is that the tread is fitted with a steel shoe to receive the wear. The patentees are C. E. Herman and S. C. Munson, 55 West Blake avenue, Columbus.

Work on the S. & M. Rubber Co.'s plant at Coshocton, Ohio, is now under way, and most of the necessary equipment therefor has been purchased, so that no delay may be experienced in installation after the building operations have suitably advanced.

The Chester Tire & Rubber Co., incorporated under the laws of Delaware, with a capital stock of $250,000, has located at Pittsburgh, Pennsylvania, where it will engage in the manufacture of automobile tires.

NEW INCORPORATIONS.

Amazon Rubber Co., July 22, 1913; under the laws of Missouri; authorized capital, $100,000. Incorporators: W. H. Schewe, Carl G. Schwarz and E. F. Schewe—all of St. Louis, Missouri. To rubberize cloth, manufacture garments, rubber goods and auto supplies of all kinds.

Army Tire Co., August 8, 1913; under the laws of Delaware; authorized capital, $1,000,000. Incorporators: George W. Griffin, Frank P. Kissel and Lorenzo J. Roel—all of 25 Broad street, New York. To manufacture and deal in automobiles, etc.

Atlantic Raincoat Co., Inc., August 15, 1913; under the laws of New York; authorized capital, $1,000. Incorporators: Abraham Karpel, 351 Elton street, Brooklyn, New York; Abraham and Jennie Miller—both of 111 Sheffield avenue, Brooklyn, New York. Location of principal office, Brooklyn, New York. To manufacture raincoats, etc.

Auto Pedal Pad Co., August 11, 1913; under the laws of New York; authorized capital, $10,000. Incorporators: Henry Reich and Edgar M. Lichter—both of 316 West Forty-fourth street, and G. Thomas Young, 706 Amsterdam avenue—all of New York. Location of principal office, New York. To manufacture pedal pads and other auto accessories.

Auto Sand Grip Co., May 24, 1913; under the laws of Michigan; authorized capital, $40,000. Incorporators: Phillip G. Sanderson, J. F. and J. B. Williams—all of Detroit, Michigan. Location of principal office, Detroit, Michigan.

Boston Prest-O-Ceal Co., August 6, 1913; under the laws of Massachusetts; authorized capital, $25,000. Incorporators: William G. Todd, Merrill F. Hubbard and Sumner M. Teele—all of 35 Congress street, Boston, Massachusetts. To deal in automobiles and motors with their appliances and accessories.

Chemical Rubber Co., of Western Pennsylvania, August 5, 1913; under the laws of Pennsylvania; authorized capital, $20,000. Incorporators: William F. Boxmyer, W. F. Vegeler—both of Garrick, Pennsylvania, and Robert A. Fulton, Cheswick, Pennsylvania. Location of principal office, Pittsburgh, Pennsylvania. To manufacture, buy and sell articles used in the construction and operation of motor vehicles and manufacturing, buying and selling and leasing a chemical product known as chemical rubber, etc.

Chester Rubber Tire and Tube Co., August 9, 1913; under the laws of Delaware; authorized capital, $250,000. Incorporators: Morgan Howells, Ephraim Lyon and C. E. Jarvis—all of Pittsburgh, Pennsylvania. To manufacture and deal in rubber tires for vehicles, rubber tubes, rubber hose and rubber specialties.

Chicago Tire Goods Co., Agust 7, 1913; under the laws of Illinois; authorized capital, $10,000. Location of principal office, Chicago, Illinois.

James J. Fero, Inc., July 31, 1913; under the laws of New York; authorized capital, $20,000. Incorporators: James J. Fero, 172 Manhattan street, New York; George D. Brown, 108 West Eighty-fourth street, and William S. Foos, Hudson Heights, New Jersey. Location of principal office, New York. To carry on tire business.

El Paso Rubber Vulcanizing and Auto Supply Co., July 22, 1913; under the laws of Texas; authorized capital, $10,000. Incorporators: C. W. and William Mace, and C. Fowser. To buy and sell merchandise and especially automobile supplies, etc.

The Forrest Rubber Co., July 30, 1913; under the laws of Ohio; authorized capital, $10,000. Incorporators H. H. Forrest, E. C. Purdy and A. D. Evans. Location of principal office, Canton, Ohio. To manufacture and deal in all kinds of rubber goods, etc.

Granite City Rubber Co., June 30, 1913; under the laws of Massachusetts; authorized capital, $25,000. Incorporators: Wallace A. Prince, George E. Reinhalter—both of Quincy, Massachusetts, and Irving W. Pollard, Cambridge, Massachusetts. To manufacture and sell rubberized goods and fabrics and the carrying on of a general rubber manufacturing business.

The Greensburg Tire & Rubber Co., July 17, 1913; under the laws of Pennsylvania; authorized capital, $100,000. Incorporators: George S. Rombaugh, W. Dunbar and John B. Hayden—all of Greensburg, Pennsylvania. Location of principal office, Greensburg, Pennsylvania. To manufacture and sell automobile tires and tubes and other rubber goods.

Hercules Rubber Co., Inc., August 22, 1913; under the laws of New York; authorized capital, $50,000. Incorporators: George H. Duennard, Allendale, Pennsylvania; Gilbert C. Shepard, 311 West 118th street, and Mabel McSween, 119 West 64th street—both of New York. Location of principal office, New York. To manufacture rubber goods.

Peerless Non-Puncture Co., Inc., August 7, 1913; under the laws of New York; authorized capital, $600. Incorporators: Maurice Uran, 1652 Lexington avenue; Harry Citret, 980 Tiffany street, and Frank Eber, 152 West 114th street—all of new York. Location of principal office, New York. To manufacture preparations for rendering tires puncture-proof.

The Pittsburgh Tire Protector Co., July 17, 1913; under the laws of Pennsylvania; authorized capital, $5,000. Incorporators: John A. Martin, Patrick Cousins and Thomas Skarry—all of Pittsburgh, Pennsylvania.

S. & K. Tire Co., Inc., August 18, 1913; under the laws of New York; authorized capital, $10,000. Incorporators: James J. Coomber, 358 West Fifteenth street, New York, Herman Senner and Bernard J. Kaplan—both of 115 West Thirtieth street, New York. Location of principal office, New York. To manufacture rubber tires, etc.

Schick Wheel & Tire Co., July 7, 1913; under the laws of West Virginia; authorized capital, $150,000. Incorporators: Adolph Schick, J. E. Morgan and D. H. Taylor—all of Wheeling, West Virginia. Location of principal office, Wheeling, West Virginia. To manufacture, buy and sell rubber tires and automobile wheels, etc.

The Valuable Raincoat Co., Inc., July 30, 1913; under the laws of New York; authorized capital, $2,000. Incorporators: Louis Odessky, 650 East Twelfth street, New York; Louis Miller, 450 Powell street, Brooklyn, New York, and Abraham Reiman, 112 Second street, New York. Location of principal office, New York. To manufacture rubberized clothing, etc.

A PROFESSOR'S WIFE MAKING RUBBER SHOES.

Among the women operatives making rubber shoes at the Goodyear company's plant in Middletown, Connecticut, is the wife of a Wesleyan professor. She goes to work at 7 o'clock in the morning and continues diligently at her task until 5 o'clock in the afternoon, with the usual hour for dinner; and her compensation—as she is a green hand—is something in the neighborhood of $5 or $6 a week. She is the wife of Charles A. Tuttle, Professor of Economics in Wesleyan, and she is engaging in this arduous mill work as a preparation for a book which she plans to write on conditions of wage earners in New England factories.

CLOSING DOWN FOR SUMMER REPAIRS.

A number of the factories belonging to the United States Rubber Co. were closed down during the greater part of August, for the usual summer vacation and for the making of repairs. The Candee factory at New Haven, the Boston Rubber Shoe Co. at Edgewater, Massachusetts, and the factory of the American Rubber Co. at Cambridge, closed on July 24, re-opening on August 24.

Some of the independent companies also closed their plants temporarily. The Converse Rubber Shoe Co., Malden, Massachusetts, shut down for two weeks early in August.

A NEW PRESIDENT OF THE INTERSTATE RUBBER

Mr. William McAdam, who has been connected for the last nine years with the Duck Brand Co. of Chicago, being in charge of its rubber boot and shoe department during the last four years, has been elected president and treasurer of the Interstate Rubber Co. of Omaha, Nebraska, the place filled for so many years by the late Z. T. Lindsay.

THE NEW PRESIDENT OF THE INTERNATIONAL STAMP MANUFACTURERS' ASSOCIATION.

Mr. Gus. A. Meyer, junior, a member of the firm of Meyer & Wenthe, is the new president of the International Stamp Manufacturers' Association, elected at its recent convention. Mr. Meyer is one of the most popular of the younger members of the stamp trade, and this, combined with his excellent business ability and training, especially fits him for the presidency of so important an association.

THE NEW SECRETARY OF THE RUBBER CLUB OF AMERICA.

Here is a photograph of Mr. Harry S. Vorhis, recently elected secretary of the Rubber Club of America. He is a Yale man, having left that famous institution under the elms some dozen or fifteen years ago. After graduating he made straight for a newspaper office in New York—which shows his *penchant* for work. For some time he wrote for the financial papers of the metropolis, and then did the same kind of work in Boston. The

HARRY S. VORHIS.

goal of every young newspaper man's ambition is the office of the "New York Sun," and Mr. Vorhis made it early in his career. He was on the staff of that brilliant journal for six years, leaving to take up the publishing and editing of technical publications, in which work he has been engaged very successfully for several years.

He has not been associated hitherto with the rubber trade, but his general knowledge of financial and industrial conditions in this country, together with his all-around capacity, marked him as a very desirable man for the secretaryship of the club in its ambition to carry out a number of important undertakings for the benefit of the rubber trade at large. Mr. Vorhis expects to devote a very considerable part of his time and energy to the work of his new position, and the plans which the officers of the club have had in mind for some time to make the club helpful in a large way to the trade, and which have not hitherto matured because no one had sufficient time to devote to them, will now undoubtedly be carried to a successful issue.

CHARLES E. WOOD.

Mr. Charles E. Wood, who was with the New York Commercial Co. for nineteen years, is now operating as a broker with offices in the Importers' & Traders' building, 24 Stone street, New York, where he has already developed a considerable clientage. Mr. Wood was born at Piermont-on-Hudson, in 1876, and received his early education in the public schools, finishing

CHARLES E. WOOD.

at Trinity school, after which he entered the employ of the New York Commercial Co., with which house he remained until its assignment, when he commenced on his own account as above stated. He is regarded as an excellent judge of the various gums, and his many friends in the trade are giving him gratifying support.

Mr. Wood has established several important connections, among them being the agency of the Derby Rubber Co., Derby, Connecticut.

PERSONAL MENTION.

Mr. George B. Hodgman, president of The Hodgman Rubber Co., and also president of the Rubber Club of America, spent the greater part of August on a canoeing trip in the wilds of Maine.

Mr. A. L. Comstock, superintendent of The American Rubber Co., Cambridge, Massachusetts, returned the middle of August from a trip to Europe, taken for rest and pleasure.

W. H. Elenbeck, former special representative of the United States Tire Co., is the new manager of the company's Worcester branch, L. E. Hevaner, who formerly had charge of this station, having given up the sale of tires in favor of a motor car agency.

Mr. Frederick A. Smith, who for the last 18 years has been superintendent of the United States Rubber Co.'s reclaiming plant at Naugatuck, Connecticut, and who has been connected with the rubber interests in that city for a quarter of a century, has resigned his position, to take charge of the reclaiming plant of the Boston Woven Hose and Rubber Co. of Cambridge, Massachusetts.

THE VULCAN COMPANY DOUBLES ITS CAPITAL STOCK.

The Vulcan Rubber Co., which was organized in Erie, Pennsylvania, a year ago with a capital stock of $100,000, has decided to double this amount and to make extensive additions to its plant and equipment. The company's chief product consists of solid and pneumatic tires.

DON'T MAKE BALATA BELTING.

In a paragraph in the August issue of this publication on balata belting, which gave the names of a few of the manufacturers of this belting in the United States, the New York Belting and Packing Co. was included, this information appearing to come from reliable sources; but a letter has since been received from that company saying that this was an error and making the statement: "We do not make balata belting, nor do we recommend its use."

MAKING BALATA BELTING IN MANHEIM.

Mr. W. J. Glendenning, the works manager of the Manheim Manufacturing and Belting Co., of Manheim, Pennsylvania, sailed for England on the 20th of August for a brief holiday, expecting to return by the end of September. Mr. Glendenning came to this country two years ago to start the Manheim works in the manufacture of "Veelos" balata belting. The company has been very successful in this sort of manufacture, and its sales of balata belting have constantly increased. The president of the company is Charles Bond, of Philadelphia, and the general manager and treasurer is M. G. Hess, of Manheim.

AMERICAN HAND SEWED SHOE CO.

The American Hand Sewed Shoe Co., of Omaha, Nebraska, has manufactured leather shoes for the last thirty years, and in addition to this work it has been a large distributor of rubber footwear. The "Omaha News," published in that city, in its issue of August 8 contained the following paragraph:

"Damaged credit, due to unfortunate investments, close money conditions, and the prolonged illness of A. T. Austin, president of the corporation, has forced the American Hand Sewed Shoe Co. of Omaha into straitened financial circumstances. There is some question as to whether the firm will continue in business, A. A. McClure, the manager, stated. A reorganization is sure in any event. Mr. Austin will probably not continue as head of the company. The largest creditor is the United States Rubber Co. The American Hand Sewed Shoe Co. was organized here in 1884 by A. T. Austin, the present head."

Later advices from Omaha state that Mr. R. F. Spencer, the comptroller of the United States Rubber Co., has spent quite a good deal of time in that city trying to straighten out the shoe company's affairs, and the information is added that if the company resumes business it will be operated by the United States Rubber Co.

A THREE-DAYS' CONVENTION WITH SIXTY SPEAKERS.

President H. M. Swetland of the Federation of Trade Press Associations in the United States announces that the program has been completed for the eighth annual convention at the Hotel Astor, New York, September 18 to 20. Acceptances have been received from over sixty speakers of national reputation in the manufacturing, selling, advertising and publishing fields. There will be fifty ten-minute addresses at the editorial, circulation, advertising and publishing symposiums on vital questions affecting all those who have dealings with the business press of America.

Other features of the convention will be an exhibit of successful class, technical and trade journal advertising campaigns, a business meeting at which will be told the inside stories of the big trade paper publishing successes and an "inspirational mass-meeting" with addresses by representative business and professional men on subjects of live interest to editors, publishers and advertisers. All the regular sessions of the convention will be open, but tickets must be secured for the "inspirational mass-meeting." These may be obtained from any member of the Federation or from W. H. Ukers, chairman of the Committee on Arrangements, 79 Wall street, New York.

TRADE NEWS NOTES.

An ordinance which has been passed by several Alabama cities, after some agitation by the local automobile clubs, makes liable to a fine of from $25 to $100 anyone found guilty of placing in the street any article that might do injury to automobile tires.

The Knight Tire and Rubber Co. of Canton, Ohio, has recently established a branch in St. Louis, Missouri, to handle its product in that city and vicinity, under the name of The Knight Tire Co.

The machinery of the Leicester Rubber Co., formerly of Trenton, New Jersey, is being moved as rapidly as possible to the company's new location at Catasauqua, Pennsylvania, and operation of the plant at this latter point is expected to commence early in September.

A new rubber industry is to be started at Regina, Saskatchewan, it being the intention of the Gutta Percha & Rubber Mfg. Co., Ltd., of Toronto, Ontario, to open a branch in that city. If arrangements satisfactory to the company can be consummated, it purposes building a new plant, and negotiations tending to this end are now under way with the Mayor of the city.

Certificate of incorporation has been issued to the Amazon Rubber Co., under which it is authorized to engage in the business of rubberizing cloth, manufacturing rubber goods, auto supplies, rubber boots and shoes, rubber surgical supplies, etc. The authorized capital stock of the company is $100,000, and the incorporators, all of whom are residents of St. Louis, are: W. H. Schewe, Carl G. Schwarz, E. F. Schewe, H. F. Schewe, and Andrew Peterson. The company's plant located at Switzer avenue and the Wabash Railway tracks, St. Louis, Missouri, will be in operation by November.

An estimate of the quantity of tires that will be needed to equip the 1913 output of the Ford factory places the number at 800,000. This would indicate that the Ford people expect to market about 200,000 cars this year.

Building contracts have been entered into for a number of cottages at Hanover, Massachusetts, to be erected by the E. H. Clapp Rubber Co. of that place for occupancy by its factory operatives and their families. The lack of suitable homes has been a contributing element in the difficulty experienced in the past by this concern in securing or retaining desirable employes, and it is hoped that by these building operations this condition may be relieved. A number of the cottages are to be ready for tenancy by September 1.

The employes of the Tyer Rubber Co., of Andover, Massachusetts, held their annual outing this year on Saturday afternoon, August 9, assembling in Boston and proceeding thence to Nantasket. In addition to the usual features which go to make the success of the average outing, one of special interest was afforded in this case, on both the outgoing and return trips, by the spectacle, off Governor's Island, of the burning of a steamboat.

The Detroit Rubber Co.'s business in the city from which it takes its name is now in charge of Mr. Louis K. Rittenhouse, who for some time previously had held a position in the company's Boston branch.

The management of the Philadelphia branch of the Republic Rubber Co.—left open by the disappearance some time ago of J. W. Lyman—has been filled by the appointment of B. C. Swinehart, former manager of the Cleveland division, to that post. The business of this company in the northwest will hereafter be taken care of from its station at 13th and Hennepin avenues, Minneapolis, Minnesota, to which point it has moved from St. Paul.

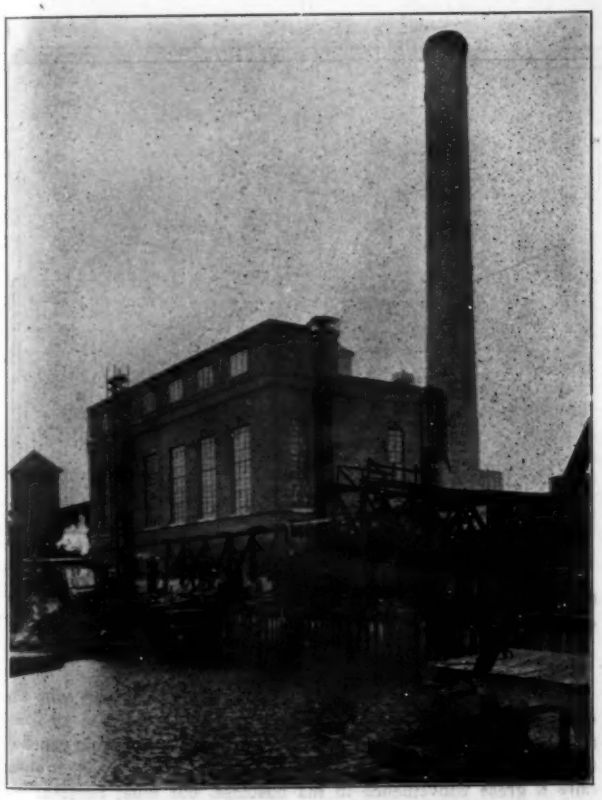
Plans are being considered by the Ohio Seamless Tube Co., of Shelby, Ohio, for additions and extensions the cost of which is approximated at $400,000, and for the opening of a stock warehouse at Detroit, Michigan. This expansion is planned with a view to securing automobile trade.

Fine New Buildings of the Boston Woven Hose.

THE completion of the handsome and efficient new power-house of the Boston Woven Hose and Rubber Co. marks another important step in the notable series of enlargements and improvements in the plant of this enterprising concern, and well serves as an example of the thorough rehabilitation of the factory, and the modernization of its modes and methods of production.

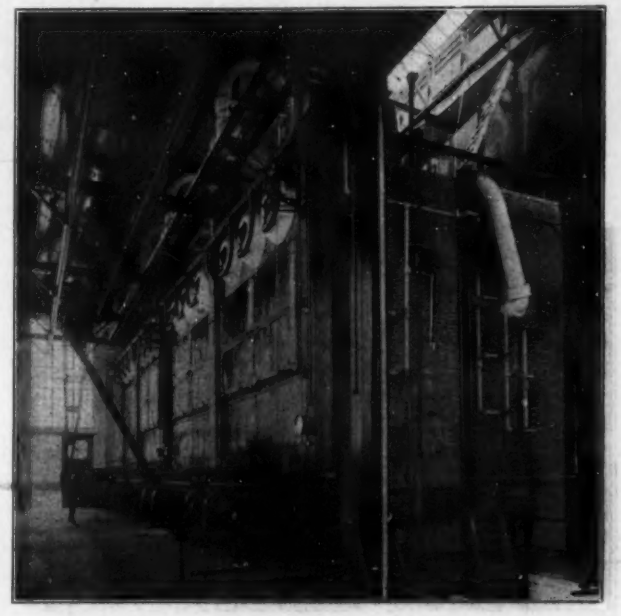
This new power-house is built upon twentieth century lines, and contains the very latest devices for economical and efficient service. The building is of cream brick with steel window casings and sash, glazed with wire glass. The graceful chimney rises to a height of 167 feet and can be seen for many miles. A glance at the boiler-room shows the liberal height of the structure. Here four Babcock and Wilcox, Foster superheating boilers, of 600 horse-power each, are already in operation, while there is room to install as many more when the occasion requires. Adjacent to this building is the coal pocket where the coal is dumped direct from the cars, or from lighters which come to the wharf. By means of the Taylor system the coal is carried from here to the loft above the boiler-room, discharged into chutes, where it is weighed and then stoked under the boilers as required, without a particle of hand labor.

There is an air-compressor of the latest construction, made by the Sullivan Machine Co. Two 750-kilowatt Westinghouse-Parsons turbines are already at work, and two similar engines,



THE NEW POWER HOUSE WITH CHIMNEY 167 FEET HIGH.

but of 1,250 k.w. each, will be installed by January 1, with another of 2,000 k.w. to come later. When these are all in place the new power plant will be, perhaps, the most modern and up-to-date in all its appointments in this country. It will be capable of generating sufficient electricity to furnish power for running all the machinery of the present plant, with sufficient reserve for



BOILER ROOM, SHOWING FOUR 600 H. P. BOILERS.

further enlargements, and to furnish the lighting for all the buildings of this great manufacturing establishment.

The whole aspect of this new building is one of safety, comfort, convenience and efficiency. There is almost an over-abundance of space, light and air, but withal it is thoroughly business-like, strong and substantial.

Immediately adjoining this new power-house there is now approaching completion the new mill-room, which when finished will be in every respect as modern as the engine-room in all its appointments. The building, which is of reinforced concrete, is 240 feet long by 100 feet wide. One half of this is of one double-height story, with saw-tooth roof skylights. The other half of the structure is four stories high. Built entirely of fire-proof materials, with all the bolts for the heavier machinery accurately placed and imbedded in the original concrete, this building will be one of the largest and most complete mill-rooms connected with a mechanical rubber manufacturing concern. The completion of this building marks the passing of all of the original plant, the doing away with all of the wood-constructed buildings, and results in the most modern mechanical plant in the country.

As soon as this new building is occupied, the office building, which was the original mill, will be reconstructed and rearranged for the selling and executive business of the company. Only one-half of the building is now so occupied, but the demands of the steadily increasing business require still further expansion of the cost, auditing, selling and accounting departments.

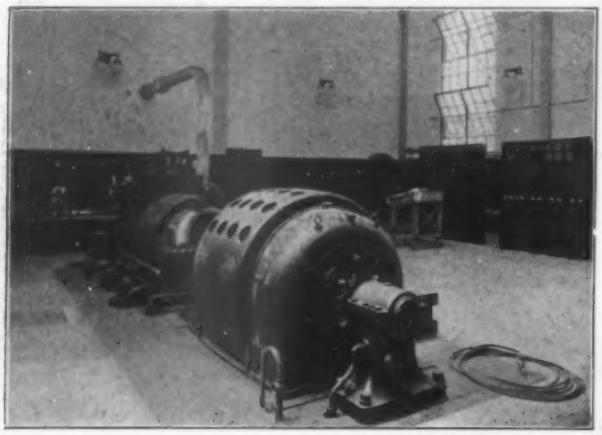
The Boston Woven Hose and Rubber Co. of today is the outgrowth, or reorganization, of a concern founded in 1870 by Theodore A. Dodge. The present company was incorporated under the laws of Maine on May 17, 1899, and capitalized at $1,200,000. The charter of the corporation was changed, in 1906,

to conform with the state laws of Massachusetts. The board of directors, elected in 1899, comprised: J. N. Smith, president; B. F. Spinney, vice-president; H. B. Sprague, treasurer; J. Q. Bennett, secretary, and W. A. Bullard.

All of these directors served in their various capacities until 1912, when death very suddenly claimed Mr. Bullard, and less than two months later, Mr. Smith. Vice-President Spinney was elected president to succeed Mr. Smith, and Mr. Creighton has been chosen as a successor to Mr. Bullard, and these were added to the board: George E. Hall and J. Newton Smith.

Soon after the reorganization Mr. A. M. Paul became general manager, continuing in that position until April, 1907, when he resigned to become owner and manager of the Davidson Rubber Co. of Charlestown, Mass. Mr. George E. Hall, the present manager, succeeded Mr. Paul, taking active charge July 15, 1907.

The growth of the concern has been phenomenal, as is



TWO 750 K. W. WESTINGHOUSE-PARSONS TURBINES.

graphically told in tabular form, showing the gradual yet steady expansion during the last fourteen years:

	No. Employed.	Sq. Ft. Occupied.	Pounds Produced.
1899	530	247,530	2,327,000
1900	582	"	3,732,112
1901	612	"	3,589,608
1902	679	"	6,072,532
1903	726	"	6,149,655
1904	750	"	6,278,748
1905	815	250,400	7,144,853
1906	987	"	8,672,515
1907	1,011	"	10,399,711
1908	1,012	378,200	9,456,028
1909	1,050	470,575	12,745,216
1910	1,127	600,566	13,727,532
1911	1,196	601,943	13,379,156
1912	1,288	627,780	17,891,811
1913	1,304	719,310	18,996,410

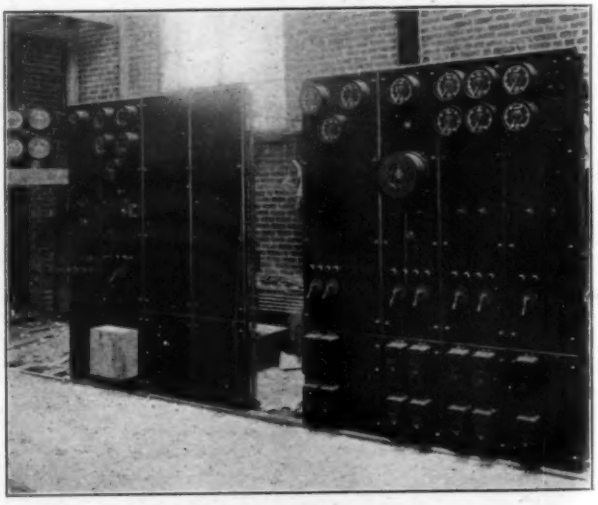
To date, August 2.

The product of the company comprises nearly every variety of mechanical rubber goods, the largest or principal items being garden hose and fruit jar rings, altho rubber belting, fire hose and rubber tape are hard pressing these lines for supremacy. Over ten miles of garden hose are produced daily, tho sometimes the production of a single day is more than double that amount. The jar ring output is tremendous. If one day's product were piled, one ring above another, the column would be 3.8 miles high. These rings laid down in a straight line, touching at their edges, would extend 208 miles. The tape produced each day, figured on ¾-inch width, if run in one continuous line would reach nearly 350 miles. Rubber heels are produced at the rate of 16,000 pairs per day. Both woven and braided fire hose are manufactured, a million pounds of yarn being used annually for this purpose, while for garden hose, etc.,

THE COAL CONVEYOR.

over 3,500,000 pounds of cotton duck and sheeting are required. This is claimed to be the only concern in the country making the hose complete, with all the fittings and metal accessories; a large foundry and machine shop being an auxiliary of the factory

Connected with this concern, but operated at Plymouth, Massa-



ELECTRIC SWITCHBOARD.

chusetts, is a reclaiming plant producing over 5,000,000 pounds of reclaimed rubber annually.

A MOTORCYCLE FOR A HORSE.

There is a hardware man in a little town in Missouri who is evidently willing—living up to the peculiar reputation of his state—to "show" people. He is proving that a motorcycle can do the work of the horse. He has hit upon a device which is not only a great convenience in his business, but must necessarily prove a good advertisement. He has made a light delivery wagon, equipped with bicycle wheels, and has arranged it so that it can be attached to the back of a motorcycle. He puts his wares in his delivery wagon, the boy mounts the motorcycle, which, taking the place of the horse, draws the wagon about town. And it has this further advantage over the horse, that when it isn't working it isn't eating.

THE OUTLOOK FOR THE WALPOLE TIRE AND RUBBER CO.

ON August 2, on a petition by Mr. Rensselaer L. Curtis, receiver of the Atlantic National Bank of Providence, Rhode Island, Judge Dodge of the United States District Court in Boston, appointed Robert G. Fisher temporary receiver for the Walpole Tire and Rubber Co.

It might be stated at the beginning that it is believed by the receiver, the creditors and stockholders that the Walpole company is entirely solvent, that it has a wide margin of assets over its liabilities, that the receivership will be only temporary and that the company will soon be able to continue its business as successfully as hitherto.

To give a proper history of the Walpole Tire and Rubber Co. it is necessary to mention its parent, the Massachusetts Chemical Co., which was established in Walpole, Massachusetts, in 1891 and which for many years did a highly successful business in the preparation of insulating compounds, impregnating fabrics with these compounds, and the manufacture of insulating tape. In June, 1910, the Walpole Rubber Co. (which name was later changed to the Walpole Tire and Rubber Co.) was formed by the merger of the Massachusetts Chemical Co., the Walpole Varnish Works, the Walpole Shoe Supply Co., The Valveless Inner Tube Co., of New York, and the Walpole Rubber Co., Ltd., of Granby, Quebec. The company was capitalized at $3,000,000, divided equally between 7 per cent. cumulative preferred and common stocks.

This new company engaged in a wide variety of rubber manufacture, including friction, rubber tapes, varnishes, paints, compounds, druggists' sundries, molded rubber goods, rubber heels, and later, rubber tires. Its business grew at a very satisfactory rate. In the first six months of 1912 its sales aggregated $667,587.65, while for the first six months of the present year the sales aggregated $1,197,194.58, showing an increase over the year before for the same period of 80 per cent.; and this business, it is stated on excellent authority, has been done at a very fair profit, amounting during the present year at least to 10 per cent. net.

It was the ambition of the company to work its tire department up to a position where it would turn out 500 automobile tires a day, but this great increase in its tire business as well as its general business required a big increase in its financing operations, for rubber goods are sold on long-time credit. When, consequently, the Atlantic National Bank of Providence—through which it was accustomed to get its accommodations—went into a receiver's hands last April it proved very embarrassing for the Walpole company, as it had almost $900,000 locked up in its merchandise inventory which could not be turned into ready cash without a great sacrifice.

The company had also been carrying an additional burden in attempting to put the Consumers' Rubber Co. on its feet. This company, located at Bristol, Rhode Island, went into the hands of a receiver in the spring of 1912. Quite a little of its paper was held by the Atlantic Bank, which prevailed upon the Walpole company to assume the management of the Consumers' company—and it was reorganized and started afresh, the Walpole company controlling the bulk of its common stock. But this reorganization was evidently not successful, as the Consumers' company is said to have been run during the past year at a considerable loss. A receiver was appointed for it on August 1, and thereupon, the following day, the receiver of the Atlantic National Bank—to which the Walpole company was indebted, directly and indirectly, through its subsidiary companies, for an amount somewhat in excess of $100,000—applied for a receiver for the Walpole company.

The receiver appointed by the court, Mr. Robert G. Fisher, has been acting as treasurer of the Walpole company since its partial reorganization a few weeks ago. He was made receiver on the request of Mr. McAdoo, Secretary of the Treasury. Soon after his appointment a movement was started among certain of the creditors to have an additional receiver named, on the ground that Mr. Fisher's experience had not properly qualified him for this difficult position. The stockholders, in the meantime, were anxious to have an additional receiver appointed so that their interests might be safeguarded. The largest stockholders, with the amount of their holdings, are given as follows.

Otis N. Pierce, New Bedford	$66,000
E. Draper Blair	30,000
Clair Draper, Hopedale, Massachusetts	24,000
Montgomery Clair, Washington	20,000
S. P. Chandler, Nashua, New Hampshire	15,800
W. J. Fallon, Roxbury, Massachusetts	15,000

The largest merchandise creditors on notes are:

Edward Maurer, New York	$92,226
Endurance Tire and Rubber Co., New York	30,000
Charles T. Wilson, New York	27,980
Robinson & Co., New York	20,338
Heidelbach & Ickelheimer, New York	17,986
L. Littlejohn & Co., New York	16,364
Adamson Machine Co., Akron, Ohio	15,500

The capitalization of the company, which, at the time it was formed in 1910, consisted of $1,500,000 each of preferred and common stock, was later increased to $4,500,000, $3,000,000 preferred and $1,500,000 common, the actual outstanding stock at the present time being $1,903,900 preferred and the full amount of common. From the time of its organization, three years ago, until last spring, the company paid 7 per cent. dividends on its preferred stock and 4 per cent on its common.

The company's assets and liabilities as of June 30 are set forth in a statement submitted to the court in connection with this petition. The figures which are given below indicate the essentially sound condition of the company's position.

ASSETS.

Plant	$1,230,815
Patents, goodwill, etc	1,312,419
Stock other companies	20,450
Treasury preferred stock	103,000
Cash	23,860
Trade	197,805
Sub. and coup. notes	15,944
Other accounts receivable	89,954
Consumers' Rubber Co	27,030
Notes receivable	40,090
Prepaid accounts	10,678
Merchant inventory	863,998
Contingent assets	190,595
Total	$4,126,638

LIABILITIES.

Accounts payable	$258,705	
Notes payable	847,800	
Contingent liabilities	190,595	
Accrued taxes	3,600	
Accrued payroll	9,609	
Reserves:		
L. O. Duclos com	3,000	
Disc. and doubtful accounts	30,534	
Doubtful notes received	9,514	
		$1,353,357
Balance of assets		$2,773,281

It is set forth in the petition to the court, and corroborated through other channels, that the company's plant is now in full operation, with a fine volume of orders ahead, upon which substantial profits will naturally be realized—so that it would appear that the creditors need not feel any particular apprehension about the outcome.

Anyone who is at all familiar with the rubber trade can recall to mind other companies which in past years have been temporarily embarrassed but which have emerged most successfully from their difficulties and for years have been numbered among the most prosperous members of the rubber manufacturing fraternity.

On August 26, Judge Dodge in the United States District Court, appointed Robert O. Harris of Bridgewater, Massachusetts, co-receiver of the Walpole Tire and Rubber Co., to act in association with Robert M. Fisher of New York, appointed receiver early in August.

THE CONSUMERS' RUBBER CO. RECEIVERSHIP.

The Consumers' Rubber Co., of Bristol, Rhode Island, which was organized in 1905, and whose experience during the past eight years has not been altogether a bed of roses, was petitioned into bankruptcy and a receiver appointed on August 1. The chief petitioner was R. L. Curtis, receiver of the Atlantic National Bank of Providence, to recover $42,685.54 loaned on notes. The receiver is Robert S. Emerson, of Pawtucket, Rhode Island, clerk of the Tenth District Court. This company was petitioned into receivership a year ago last spring, but the Walpole Tire and Rubber Co. took over a controlling interest in its common stock and assumed its general management, with the hope that it might be put upon a paying basis. For the first few months after this arrangement went into effect the prospects of the company seemed fairly bright, but its business during the last few months has been carried on at a considerable loss. The petition states that the company is willing to be adjudged bankrupt and unable to pay its debts.

Our Providence correspondent, in his letter, "The Rubber Trade in Rhode Island," in this issue, goes into the affairs of this company in considerable detail.

A RUBBER MILL STOREHOUSE BLOWS UP.

The population of Reading, Massachusetts, particularly that part of it nearest the Reading Rubber Works, was thrown temporarily into a condition of panic on August 5 by the blowing up of the storehouse belonging to the rubber company, in which there was stored a variety of explosives and inflammables, including several tons of celluloid, 50 gallons of naphtha and solvent, 50 barrels of alcohol and a number of barrels of a combination of alcohol and lamp black. The roof of the building, which was made of steel, was blown 60 feet away. Three of the brick walls of the building were blown out and scattered over a radius of several hundred yards. Fortunately the 50 barrels of alcohol, being protected by a wall, did not explode. By rare good fortune, the rubber works, about 150 feet from the storehouse, were closed down, only a few workmen repairing machinery being in the building. These escaped without injury. There was no one in the storehouse at the time, so there was no loss of life. The building, however, was a complete wreck, and its contents, valued at $13,000, were also destroyed. The fire department appeared on the scene but was unable to get near enough to the building to be of any assistance, owing to the tremendous heat, the flames rising to a height of 200 feet.

FOR WEEK-END AUTO TOURS NEAR NEW YORK.

The touring bureau connected with the B. F. Goodrich Co. has issued a map of a fine week-end tour near New York City. The map covers the distance from the city to the Delaware Water Gap, through Tuxedo, Port Jervis and Bushkill, and a return trip through German Valley and Morristown.

TRADE NEWS NOTES.

When the new mill of the LaCrosse Rubber Mills Co., La Crosse, Wisconsin, now under construction, is completed, the company will have a building 260 x 70 feet, entirely of concrete and steel, and its manufacturing capacity will be doubled. The company makes rubber footwear and employs a very large corps of traveling salesmen.

The annual convention of the Federation of American Motorcyclists, held late in July in Denver, was attended by representatives of a number of tire companies, among them—C. J. Welch of the United States Tire Co., New York; J. F. Reddick and A. C. Goodwin of the Goodyear Tire and Rubber Co., Akron, Ohio, and L. B. Lyman of the Diamond Rubber Co., Akron, Ohio.

Additions which will cost approximately $75,000 are being made to the plant of the Pennsylvania Rubber Co. at Jeannette, Pennsylvania. These consist of a four-story concrete and brick building 40 x 120 feet, and a one-story concrete and brick structure 120 x 120 feet, both supplied with all the latest ideas in the way of factory equipment.

The Ten Broeck Tyre Co., of Wilmington, Delaware, recently incorporated, will operate a factory in Louisville, Kentucky, devoted to the manufacture of automobile tires.

The value of the automobile tires exported from the United States during May of the present year was $396,816, and for June, $431,125.

A service station intended exclusively for the convenience of users of Goodyear tires is to be established in Cleveland, Ohio, by The Goodyear Tire and Rubber Co., of Akron, as soon as the three-story building at 5213 Windsor avenue, which has been leased for the purpose, can be remodeled.

The National Leather and Shoe Finders' Association—formed in 1904, and now having a membership of 387—held its ninth annual convention this year from July 22 to 24, in Philadelphia; and on Tuesday, the 23, after the regular meeting of the association, the members were entertained by the Foster Rubber Co., the steamer "Columbia" having been chartered for a trip on the Delaware river, with a view of Cramp's shipyards and the League Island navy yard, where all those who wished were permitted to visit the warships in dock. The return trip was devoted to dinner, which was served on deck, and to admiration of the beautiful souvenirs of the occasion which were presented to the members of the association and the ladies who accompanied them. These souvenirs consisted of leather vanity cases for the ladies and brown ooze leather collar boxes for the men.

The Philadelphia branch of the Federal Rubber Mfg. Co.—of which Edward J. McCaffrey has been made manager—has become one of the busiest in that company's chain of agencies, and has been instrumental in greatly increasing the demand for its product.

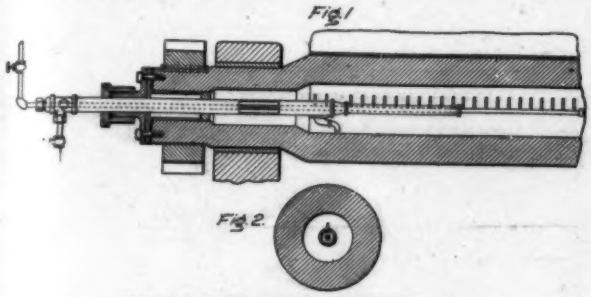
Mr. J. B. Abler, who has been connected with rubber manufacture in Akron for the last 20 years, is now acting as superintendent of the Sterling Rubber Co., Ltd., of Guelph, Canada, of which company Mr. F. L. Freudeman is secretary and treasurer. This company was organized in September, 1912 and has been making goods since the beginning of this year. It manufactures high grade rubber specialties for surgeons and electricians, and druggists' sundries.

The Boston, Massachusetts, branch of the Dayton Tire Co. will in future be managed by Joseph M. Everett, whose interests in the tire business of that city have heretofore been divided between the Walpole and Diamond companies, with both of which he has been connected. This appointment was made possible by the promotion of E. C. Newcomb, former manager.

New Rubber Goods in the Market.

A COMBINATION DOUBLE TUBE TEMPERATURE REGULATOR.

THE Florence Combination Double-Tube Temperature Regulator, adapted for the regulation of heating and cooling mills, calenders and mangles, is made by Frank L. Trefethen, whose factory is at 199 Broad street, Lynn, Massachu-



"FLORENCE" TEMPERATURE REGULATOR.

setts. It is claimed that this device insures even temperature of the entire length of a roll, maintains position under steam or water pressure and can exhaust direct to atmosphere.

TO HOLD ICE BAGS ON THE HEAD.

It is a well known fact that fever patients or children are apt to throw off the ice bags placed on their heads which have to be replaced. The necessity of constant watchfulness is avoided by the use of the new ice-bag holder, which is made of rubber material and shaped like a cap. The ice bag (not too full) is inserted through an opening in the cap. A bandage holder is made, likewise of rubber material, on the same principle. [Sächsische Gummiwaren Industrie, Johannes Steinbrück, Dresden.]

A GUN THAT SHOOTS A RUBBER BALL.

Probably a ball was the first article ever made of rubber. The South American Indians have been amusing themselves with rubber balls for centuries—Columbus saw them playing with them when he was over here. Here is an air gun that shoots a rubber ball. The advantage of using a rubber ball is that the youngster can use the gun in the house, practicing at any target he chooses without doing very much damage. This rifle is called the "3-in-one," because, in addition to its ability to use a rubber ball as ammunition, it can be used with a cork on the end of a string—chiefly for the amount of explosive sound that can be extracted from it in

THE KING 3-IN-ONE.

this way—and also for regular shot, where the range is out of doors and the target a suitable one. (The Markham Air Rifle Co., Plymouth, Michigan.)

A TEMPORARY LEAK STOPPER.

The accompanying illustration shows a device, called "The Aqua Stopper," for repairing temporarily leakages in lead or iron pipes used for water, gas or steam. It consists of a screw clamp with an iron shield and a rubber washer. The rubber washer is loose, so that it can be put at any point under the shield where its services are required. The screw presses the shield against the washer and closes up, for temporary purposes, the leakage in the pipe.

A TEMPORARY LEAK STOPPER.

This, of course, is not intended as a permanent repair, but it will serve well enough until the plumber can find it convenient to get around. It is simple and inexpensive and can be used an indefinite number of times.

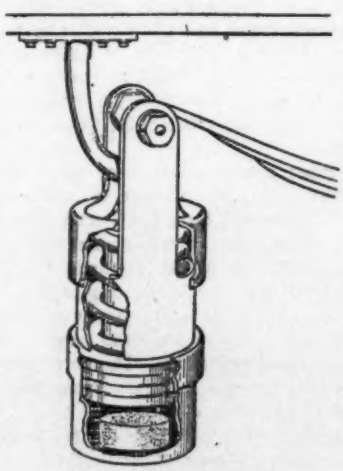
A NEW ANTI-SKID TIRE.

To be sure there is nothing particularly new about an anti-skid tire—anti-skid tires of many types have been on the market for some time—but here is a new type. It is the Lee Anti-skid, and, as the accompanying illustration shows, it has a zig-zag tread, with various lugs or knobs interspersed with the zig-zag band, and with fairly deep channels running between the designs, so that the edges of these various lugs —not to mention the continuous zig-zag lines —have a good opportunity to get a tenacious hold on the surface of the road.

The same manufacturers have previously made a zig-zag tread, but this new tread differs a little in design from the old, and also has a greater thickness of rubber. (Lee Tire and Rubber Co., Conshohocken, Pennsylvania.)

A COMBINATION OF STEEL AND AIR AND RUBBER.

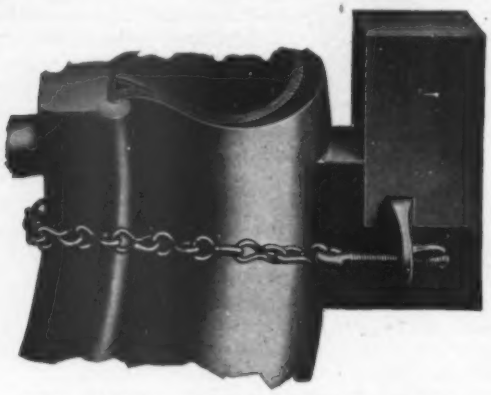
Here is a shock absorber that combines a trinity of resiliency. In the first place it has a steel coil within a cylinder; that absorbs quite a little of the shock. Connected with this steel coil is a piston that plays up and down in an air chamber, adding the elasticity of air to that of steel, to deaden the jolt. And then beneath the air chamber—as will be noticed in the accompanying illustration—there is a block of rubber, which lends its valuable aid to the good work. Co-operation is the great law of life—and this absorber is certainly built on the co-operative plan. (C. G. Polley & Co., Cambridge, Massachusetts.)



POLLEY'S SHOCK ABSORBER.

A PORTABLE STEAM TIRE VULCANIZER.

It is a great convenience when a repair on a tire is to be vulcanized to have the vulcanizer in the tool box of the car where it can be applied in a moment. The "Positive" Vulcanizer is certainly easy to carry about as it is small in size and weighs only 3 pounds. It is a steam vulcanizer and can be used on the shoe when the tire is inflated, without even jacking up the wheel, and can also be used on the inner tube. It will be noticed by the illustration that there are two sets of com-



"POSITIVE" PORTABLE STEAM TIRE VULCANIZER.

partments; one is for water and the other is for gasolene or other fuel. The operation is simple and quick. The proper amount of each fluid is inserted in the proper compartments, and enough gasolene ignited to burn 20 minutes. Then, allowing 10 minutes for the repair to cool, the motorist can go on his way. While steam does the vulcanizing, it will be seen that the steam compartments are open at the top, so that there is no pressure and therefore no liability to injury on this score. Where the inner tube is to be vulcanized it can be laid over an inflated casing or on the special block which is furnished with each outfit. (Positive Tire Vulcanizing Co., Davenport, Iowa.)

RUBBER BALL SUGGESTION FOR THE RETAILER.

A recent entertainment given by the University of Cincinnati—the institution upon whose legal faculty ex-President Taft until recently held the post of honor—affords an excellent suggestion to dealers in large rubber balls, especially such as may have a surplus of these on their hands which they do not wish to carry over to the Christmas holiday season.

A market for such may be discovered by keeping an eye on the doings of the high school or college in the dealer's home city, and when the students are found to be contemplating an entertainment of one sort or another, giving them the suggestion as carried out in the institution aforesaid. In brief, the idea is this—that a Greek dance be introduced into the program, either as an *entr 'acte* or at some appropriate point where play or program may be interrupted.

The players in the Cincinnati entertainment were girls, the most comely of course in the class, and in order to minimize expense each of these girls fashioned for herself a Grecian tunic,—a simple robe costing very little. Any young woman who is able to dance at all can quickly acquire the rhythmic round dances of the Greeks, given to an accompaniment of appropriate music. The more young women taking part, the more kin, friends, admirers of course will come to see; and hence the greater the net results of the entertainment. Therefore this particular university dance was composed of as many performers as the stage would conveniently allow.

In order to make the dance unique, Prof. Joseph Harry, who introduced it in connection with the "Frogs of Aristophanes"—the first performance of this play in two thousand years—equipped each of these pseudo-Grecian maidens with a big rubber ball, handsomely gilded over by rolling in a bath of gilt paint. In the course of the dance the balls are tossed high in air, then caught in the two hands by the girls, every so often. Of course the balls are too big not to be caught every time; nor are they thrown so high as to be missed.

It is very obvious that the use of these gilded balls is open to a variety of permutations and combinations. For instance, the dancers in the front and in the rear rows can throw their balls into the air simultaneously, and then the dancers in the intervening rows can go through the same exercise. By alternating different rows, and then by alternating individuals, there

COLLEGE GIRLS IN A GREEK DANCE WITH RUBBER BALLS.

is opportunity for great variety of movement and effect. In the dances given in Cincinnati a great many of these combinations were used, but it is not necessary to state just what ones, as anyone devising such a dance can suit himself. This feature was a great success when given during the college exercises above mentioned, and this success can be duplicated anywhere else under similar circumstances. So any dealer in rubber toys who has an overstock of large hollow rubber balls can work out this suggestion for what he may find in it.

A NEW TIRE FILLER CALLED "BETTERN-AIR."

It would be possible, of course, to fill most of the pages of this publication each month with descriptions of substitutes for the pneumatic tire, for they are legion; but occasionally one comes along that seems more promising than its thousand and one companions A new substitute recently brought on the market is called "Bettern-Air." It is the invention of a German chemist who has been working on it for the past six years. This "Bettern-Air" composition is intended to take the place of the inner tube. It is made in rolls of various sizes to fit various tires and is cut to the proper length. It is then inserted in the outer shoe and a small wedge piece put at the point where the two ends come together. The tire is then ready for use. The manufacturers claim that they have given it two years' test, with extraordinary results. They say that it has been used in tires where after 4,500 miles of travel it shows no effects of wear. The claim is not made that it is good for racing tires—it is not lively enough in its resiliency for a 60-mile clip—but for 30 miles an hour and anything under that it is said to be as resilient as air. It is being marketed by The Galvanizing Co., of Philadelphia, and the agents in the New York district are Bailey & Johnson, of Brooklyn.

NEW TRADE PUBLICATIONS.

THE NEW ALLEN CATALOG.

ONE of the best catalogs of metal and rubber goods issued of late is that of the W. D. Allen Manufacturing Co., of Chicago (No. 28), just to hand. Some idea of its completeness is afforded by the fact that the index of the principal articles comprises some 1,200 items.

Belting occupies the leading position, 20 pages being devoted to leather belting, 16 to belt accessories, and 7 to cotton belting. Rubber belting next claims attention, the brands "Lexington," "United States," "Yale," "Defiance," "Special," "Three Star" and "Mascot" being described and illustrated. The various styles of hose follow, including fire, water, steam, suction, oil, acid, sandblast, air drill, pneumatic, vacuum, air brake and other classes, among which are garden hose and special fire hose for factory and inside protection.

Mechanical rubber goods are represented by sheet, piston and spiral packing, rubber pump valves and gaskets; while a full line of rubber matting is likewise included. Lawn mowers, spray nozzles and sprinklers follow in appropriate connection, in addition to other hose accessories.

The metal portion includes shafting, couplings, pulleys, sheaves, gearing, link belting, elevator buckets and spouts, spray and other pumps, drills, valves and other forms of mechanical hardware.

In most cases the various articles are illustrated, and the 638 pages are replete with matter of interest and value to buyers of the lines of rubber and brass goods described.

"SALAMANDER" INSULATED WIRE.

In its new catalog (7 x 4½, 18 pages) the Independent Lamp and Wire Co., Inc., York, Pa., has grouped in attractive shape its principal specialties. This has been done with the view of affording in convenient form such information as may be of service to prospective customers for its wire and other products, sold under the brand "Salamander." Among its specialties are magnet wire, asbestos insulated and braided copper wire conductors, and motor coils.

The booklet is replete with information, of both a general and a special character, including the weights of copper wire in various diameters and other useful tables. Of practical value are the directions for handling "Salamander" Asbestos Insulated Wire, in which a dozen rules are laid down for the guidance of the worker using it.

The text is rendered more effective by well executed illustrations. One cut represents a heap of old burned out field coils, showing the condition in which they are received by the company for the purpose of re-insulation by its new process.

"NO RIM CUT" NEWS.

Among the salient features of the activity displayed this year by the Goodyear Tire and Rubber Co., of Canada, is the continuation of its policy indicated by the slogan "With and for the Dealer." In its new monthly issue, the "No Rim Cut News," the company outlines its principle of working only for the dealer, and never against him.

By this publication it is hoped to bring about a "get-together" feeling between the company and dealers; and if the trade develops the idea, the result must be mutually satisfactory. This expression of the company's views is much aided by the excellent illustrations, depicting various appropriate Canadian subjects relating to its operations. [Goodyear Tire and Rubber Co. of Canada, Ltd., Toronto.]

OXFORD RUBBER CO.

One of the most attractive and comprehensive catalogues recently issued in the rubber clothing trade has been put out by the Oxford Rubber Co., which has received a great many flattering comments with reference to its completeness and physical construction.

FISK TIRES.

Prominent in the interesting collection of recent tire literature is the handsome booklet issued by the Fisk Rubber Co., Chicopee Falls, Massachusetts, devoted to the merits of the "Heavy Car Type" of Fisk Tires.

Among the leading features of the construction of this tire is the perfect equilibrium maintained between its several parts. To obtain this result, high-grade material and expert workmanship are not sufficient. What is needed is to find the exact proportion of strength necessary in each layer of rubber and ply of fabric. Too much weight in any part of a casing is as dangerous as too little.

Such is the general principle emphasized in this review of the merits of Fisk tires in general, and of the "Heavy Car Type" in particular. The Fisk company claim to be the only manufacturers who have maintained four plies of fabric in their three inch tires.

The text is supplemented by effective illustrations of the Clincher Tire Bailey Tread, Clincher Town Car Tread, Fisk-Dunlop Tire, Plain Tread and the Fisk Removable Rim. To those already using Fisk tires this booklet gives additional reasons for continuing to do so, while its forcible reasoning equally appeals to those contemplating their adoption.

NORTH BRITISH BALLOON FABRICS.

In its present development of Balloon and aeroplane fabrics, the North British Rubber Co. is carrying out the policy which has marked its operations for considerably over 50 years, claiming that its rubber manufacturing plant is the most complete within the British Empire. Thus for the delicate processes connected with the above fabrics it has had special facilities.

The importance of this branch of its product has led to its bringing out two attractive booklets, "Concerning Aeronautics" (32 pages) and "North British Aeroplane and Balloon Fabrics" (8 pages), in which the general and special features of the subject are fully explained.

Prominence is given to the tests of diffusion, strength, tearing, bursting and moisture absorption. One of the most striking features of the larger booklet is a list of the various cloths for aeronautic purposes, with specifications of their different constructions. The text is supplemented by a number of artistic illustrations, showing the North British fabrics in use.

Anyone interested in the subjects treated will benefit by the perusal of these two contributions to the literature of aviation.

ATLANTIC WIRE.

Few lines of manufacture involve so much detail as that of wires and cables, by reason of the multiplicity of sizes and the various forms in which they are used. This fact is exemplified in the case of the Atlantic Insulated Wire and Cable Co., Stamford, Connecticut, which has issued its price list in the form of three separate booklets, uniform in size and arrangement, applicable to its three standard grades of rubber-covered wires and cables of the National Electric Code Standard of 600 volts.

The three booklets represent first the "Dolphin Atlantic" new code wire, the list bearing date January 1, 1913, and filling 11 pages 7 x 4. In the second booklet is the list of "Triton Atlantic," dated June 1, 1913, filling 15 pages and containing all particulars regarding that high-grade wire. The third booklet gives the price list, dated June 1, 1913, of the "Neptune Atlantic" wire (30 per cent. rubber), the details occupying 15 pages.

Three main divisions are shown in the respective lists: B. & S. gauge, solid and stranded wire, and circular cables. Considerable work has evidently been involved by the compilation of these three booklets, the handy form of which renders them convenient for buyers. This company is to be congratulated on the way in which the details have been presented.

The Editor's Book Table.

FIRES AND FIRE-FIGHTERS. BY JOHN KENLON, CHIEF OF NEW York Fire Department. New York, 1913. George H. Doran Company. [Cloth, 410 pages, with 45 plates. Price $2.50 net.]

WHEN a big subject is handled by a competent man a satisfactory result is to be anticipated. This has undoubtedly been the case in the instance of the volume by Chief Kenlon, who by his thirty years' experience as a fire-fighter and in the higher ranks of the fire department, has a distinct claim to attention.

Starting from the palmy days of Rome under the Caesars, he conducts the reader through the decadence which marked the dismemberment of the Roman Empire up to the renewed interest in fire-fighting which marked the last century and has since been manifested.

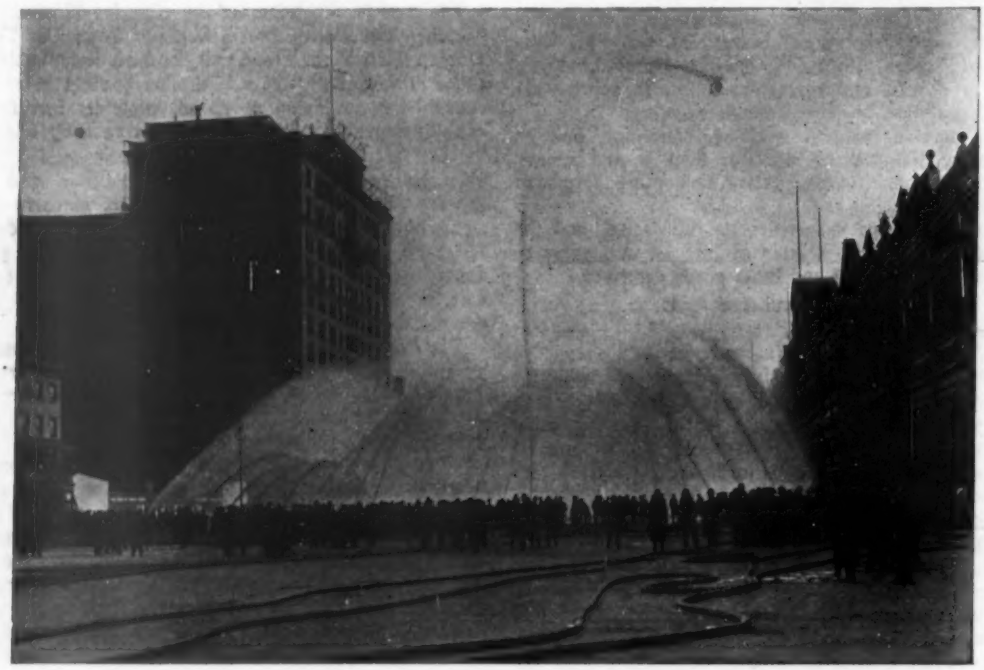
Prominent among the events recorded was the designing by Richard Newsham in the eighteenth century of a practicable hand engine from which water was pumped through a hose, being thus the predecessor of the manual engine, which in turn gave way to the steam fire engine. In 1808 a Philadelphia house introduced riveted leather hose, while about 1820 an English firm started to manufacture rubber hose.

Proceeding to deal with his personal recollections, Fire Chief Kenlon devotes twenty pages to reminiscences of his thirty years' life as a fire-fighter; also drawing largely upon his own experiences in the chapters on "Great Fires and How They Were Fought," "The Hotel Peril," and other branches of the subject in its modern aspect. The personal character of the work is throughout prominent.

Special interest attaches to the chapter on "Apparatus for Fire Fighting," in which the merits of the steam pump, water tower and other appliances are fully discussed. As to chemicals, the author expresses the opinion that while useful in residential districts with detached houses, they are not applicable to large commercial buildings.

The decisive feature governing fire-fighting in all countries and under all conditions may be summed up in the two words "water supply." This problem, according to the author, is solved by the high pressure system, which he regards as the most up-to-date plan of water supply known to science. This service in the Borough of Manhattan protects approximately 2,600 acres, in Brooklyn about 1,000 acres, and at Coney Island about 146 acres. The system was put into regular use in New York in 1908.

The value of the work as a text book on the subjects treated is enhanced by the chapters on "The New York Fire Department," and "Underwriters and Salvage Corps." The appendix contains a series of practical tests for fire engines. These include the friction loss in fire hose, based on tests of best quality rubber-lined fire hose, as well as nozzle pressure through various lengths of rubber-lined hose in different widths.



CAPACITY TEST, HIGH PRESSURE SYSTEM, NEW YORK.

Nor is Chief Kenlon's survey of the subject confined to this country. Special chapters deal with the conditions and past history of the question in England, France, Germany, Austria-Hungary, Switzerland and Italy. A chapter of particular value deals with "Fire Control in Schools, Factories and Hospitals."

In this brief review it is impossible to do more than indicate the various points covered by the author. The work should undoubtedly be in the hands of everyone in any way connected with the inter-elemental struggle of fire-fighting.

HANDBOOK OF BRITISH GUIANA. EDITED BY ALLEYNE LEECHman. Georgetown, 1913. Permanent Exhibition's Committee. Price 2 shillings. [Cloth, 8vo, 284 pages, with 74 illustrations.]

To make a work of reference attractive is a task involving much constructive ability and a close attention to detail. That the editors and compilers of this Handbook have succeeded so well is a testimony to the completeness of their work.

British Guiana enjoys the advantage of having at its service the Permanent Exhibitions' Committee, a body which looks after

the interests of the colony as regards publicity; the issue of the Handbook belonging therefore to its regular functions. The committee in 1909 brought out a work of this description, but as the issue was rapidly exhausted it decided upon publishing a larger edition in more condensed form. This intention has been carried out by the publication of the above volume.

The Handbook sub-committee was composed of Professor J. B. Harrison, Mr. Frank Fowler and Mr. J. Wood Davis, while the general editorial work has devolved upon Mr. Alleyne Leechman of the Department of Science and Agriculture, with the assistance of various prominent officials.

The scope of the Handbook includes four divisions: The Country, Political, Economical and Statistical. In the opening section the history of British Guiana is first dealt with, its geography and geology following and the division concluding with the climate and hygiene of the colony. From the geographical section it is seen that British Guiana has a coast line of 270 miles and an area of 90,277 square miles.

Under the political heading we find that the population in 1911 was 296,041, of which number 126,517 were East Indians and 125,486 blacks and Africans, Europeans only representing 3,937. Immigration is next treated, followed by details of the constitution and government, this section terminating with a description of the educational system.

In the economical section are grouped the various subjects affecting the productiveness of the colony and which go to make up its eleven million dollars worth of annual exports. Imports represent about nine million dollars a year. The agricultural products of British Guiana are next passed in review, including sugar, rum, rice, cocoanuts, cacao, coffee, plantation rubber, limes, fruits and fibers; while the next chapter takes up the forest industries, including balata, wild rubber and timber. The consideration of the mining industries closes the discussion of the economical resources of the colony. A brief but suggestive chapter deals with the manufacture of sugar and rice and calls attention to the special opportunities existing for the establishment of factories in various lines.

In the statistical section a number of interesting tables give figures of immigration, rainfall, revenue and expenditure, imports and exports, etc. One table shows the average yearly exports of balata for quinquennial periods to have been: 1893-1897, 226,625 pounds; 1898-1902, 401,956 pounds; 1903-1907, 497,790 pounds; 1908-1912, 1,075,216 pounds. The bulk of the balata exports is to the United Kingdom, but increasing quantities are now being shipped to the United States. The exports to that market increased from 9 per cent. of the total in 1904-5 to 15 per cent. in 1911-12.

Trade with the United States, according to American returns, is far from having attained its possible development. Of the nine million dollars of British Guiana's imports this country furnishes only 1¾ millions, while we take only about 1¼ million dollars worth, out of total exports from the colony of 11 millions.

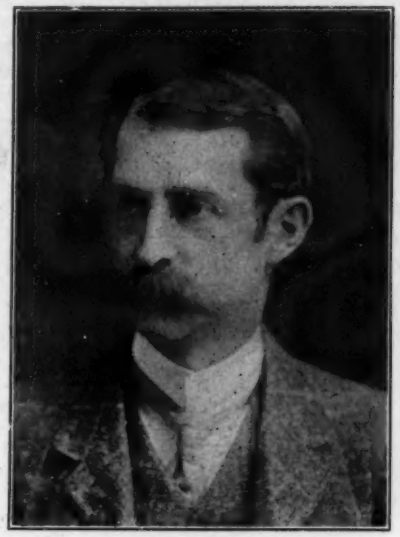
MR. ANTHONY N. BRADY'S WILL.

The will of the late Anthony N. Brady was made public August 4. The widow receives $1,000,000 and an annuity of $60,000, together with the Brady residence in Albany and all its contents; $100,000 is given to charitable institutions, being equally divided among the Albany Hospital, Albany Hospital for Incurables, St. Peter's Hospital of Albany and the Homeopathic Hospital. The rest of the estate—which is variously estimated at from $75,000,000 to $100,000,000—is divided into six equal parts and bequeathed to his two sons, three daughters and to a granddaughter, the child of a deceased daughter. It is estimated that nearly one-third of his fortune was represented in his tobacco interests. His interests in the rubber trade, especially in the United States Rubber Co., General Rubber Co. and Rubber Goods Mfg. Co., are known to have been very large, but just how large has not been divulged.

OBITUARY RECORD.

JOHN D. CHEEVER.

THE death of John D. Cheever occurred very suddenly on August 16, at Coburg, Ontario, where he had gone a few days before for a short summer vacation. Mr. Cheever was formerly a prominent figure in the rubber trade but retired from his



JOHN D. CHEEVER.

active interests in this industry about ten years ago. Mr. Cheever was born in New York City in 1859 and was the son of John H. Cheever, founder of the New York Belting & Packing Co. He was a graduate of Trinity College, and upon leaving there became connected with the New York Belting & Packing Co., of which his father was then president. Mr. Cheever continued his connection with the company until it became a part of the Rubber Goods Corporation, when he became identified with the Mechanical Rubber Co., of Cleveland, remaining with that concern for a short time. Subsequent to this, Mr. Cheever became associated with Henry W. Poor & Co., with which house he remained for four or five years, this constituting the last of his active business career, tho for a number of years afterwards he gave attention to his important iron ore interests.

He was a director of the Okonite Co. from its inception until the time of his death. Mr. Cheever was one of the originators of the National Horse Show Association, the organizer and first president of the Rockaway Hunt Club, and a member of the Union, Racket and Tennis, New York Yacht, Brook, and Turf & Field clubs.

He left an estate said to be "at least $50,000," the principal beneficiaries under the will being his widow, his daughter, Mrs. Gertrude G. Porter, 969 Park avenue, New York, and his brother, Henry D. Cheever, who, in conjunction with Clifton P. Williamson, is an executor of the estate.

MR. F. M. SHEPARD'S WILL.

The will of the late Frederick M. Shepard was admitted to probate in Newark, New Jersey, on July 31. Under its terms, the estate—the value of which is not given—is left to the widow and five children. The widow is bequeathed the home in East Orange, stocks and bonds of the Orange Water Co., stocks of the East Orange Safe Deposit and Trust Co., and a parcel of land in East Orange. The rest of the estate is divided equally among his five children, except that his daughter, Annie R. Shepard, receives in addition his real estate at Delaware Water Gap, and his daughter, Edith M. Shepard, all his real estate at Norfolk, Connecticut.

Some Rubber Interests in Europe.

NETHERLANDS RUBBER TRADING.

ACCORDING to the report of United States Consul General Listoe, of Rotterdam, the local rubber market was exempt from wide fluctuations during 1912. Forest rubber in unclean and lower qualities was in much less demand than plantation rubber, which found a ready market through the whole year. Only small quantities of *Castilloa* and *Manicoba* were imported during that period.

The prices paid in Amsterdam and Rotterdam were in general quite satisfactory and above the level of other markets. Several shipments of rubber were sent to the Netherlands, which in former years had been consigned elsewhere. United States purchasers were regular buyers in Rotterdam, a continued expansion of which market is anticipated.

In the twelve monthly inscriptions of 1912, a total of 1,034,440 pounds was disposed of, four-fifths of which consisted of plantation rubber. A further total of about 160,000 pounds was sold outside of the public auctions.

Some 35,200 pounds of leaf gutta was sold by inscription in 1912. The crop of balata suffered from the drought in Surinam, the quantity marketed in the Netherlands amounting to only 400 tons.

The exports from the Rotterdam district to the United States included the following amounts:

	1911.	1912.
Crude	$165,168	$316,950
Waste	54,757	16,178

Exports of rubber from Amsterdam to the United States represented in 1911, $30,975, and in 1912, $278,495.

RUBBER ORGANIZATION FOR AMSTERDAM.

An association of 30 houses has been formed at Amsterdam in the interest of the local rubber trade. It is preparing regulations for the conduct of business and will include an arbitration committee for the settlement of disputes as to quality and other matters. Further applications for membership are pending.

RUBBER MANUFACTURERS IN BOGOTA.

NOT very much has been heard regarding rubber manufacture in Colombia, but a recent inquiry of one of the public officials in Bogota brought out the fact that there is at least one man in that city who has devoted a great deal of time and thought to the possibilities of rubber. He is Ismael José Romero. Being a traveler and quite a good deal of a scientist, he began about twenty-five years ago to make a theoretical and practical study of the botany of the rubber tree as found in Colombia, traversing the country and exploring many of its forests. He related his experiences in a little book, which has proved so popular that it has run through several editions.

Having informed himself very thoroughly as to the botany of rubber and the extent of its growth in that republic, he began in an experimental way to do some manufacturing, producing quite a variety of waterproof fabrics and some other articles. His products were awarded a gold medal and diploma at the Fair held in Bogota in 1891; a gold medal, silver medal and diploma at the Exposition of Arts and Commerce held in Medellin in 1898; and first prize, gold medal and diploma of honor at the Centennial Exposition in Bogota in 1910.

Owing to lack of resources, he states he has not been able to establish a rubber factory in that city for all classes of fabrics, but believes that such a factory would be eminently successful.

GERMAN CRUDE RUBBER STATISTICS.

GERMAN statistics for the first five months of the last five years show that up to 1911 the quantity had increased, while it fell slightly in 1912 and 1913. Exports followed more or less the same course, but the reduction was much more important in 1913.

The exact figures are:

January-May.	1909.	1910.	1911.	1912.	1913.
Imports ..*pounds*	5,534,100	8,419,300	9,593,100	9,066,460	8,846,300
Value in millions of dollars	12.02	18.29	18.24	17.90	17.47
Exports ..*pounds*	1,364,800	2,307,100	1,902,200	2,309,000	1,639,400
Value in millions of dollars	2.31	4.97	4.11	4.39	2.63
Cons'ption *pounds*	4,169,300	6,112,200	7,690,900	6,757,460	7,206,900

The largest quantities of rubber were imported from Brazil, while a good deal was received from Mexico, Congo and Camerun. German East Africa showed a remarkable increase in its production. The quantity shipped to Germany during the first five months rose from 86,600 pounds for 1910 to 357,500 for 1913.

Owing to the importance of Germany in the distribution of rubber, it is necessary to consider the imports and exports together, thus arriving at the net consumption. Treating the figures in this way it will be seen that the quantity of rubber used in Germany increased by 80 per cent. between the first five months of 1909 and 1913.

Prices have this year considerably fallen in Germany and stand lower than in 1909, as will be seen by subjoined table, giving the average price of different grades of rubber for the month of May for the past five years. Equivalents in American currency per pound:

	1909.	1910.	1911.	1912.	1913.
South Camerun	$0.77	$1.32	$0.66	$0.77	$0.57
Upper Congo	1.01	1.76	.99	1.19	.70
Peruvian balls	.89	1.59	.82	.87	.58
Mexican rubber	.90	1.54	.82	.91	.61

THE HACKETHAL INSULATING PROCESS.

Herr Louis Hackethal, Director of the German Telegraphs, discovered, in 1899, after many years' trials, a process for the effective insulation of overhead electric wires. It consisted in wrapping the bright or already insulated wire with layers of paper and fiber, saturated by a special process with a patented composition.

Among the advantages claimed for this system is the protection of all electrical connections against reciprocal disturbances. Hence, it has been adopted for fire engine and signal stations, alarms, block stations and electric clocks.

REMARKABLE MILEAGE FOR SOLID TIRES.

They appear to be getting some remarkable solid tire mileage on the other side of the water. The Paris General Omnibus Co. reports that it has used some tires for 30,000 miles before it was found necessary to take them off the wheels; and some of the tires on French army trucks have shown a mileage exceeding 20,000 miles. To be sure the omnibus tires are probably used on more than ordinarily good streets, but in the use of army trucks it is not possible usually to pick out just the roadways on which tires could be used to the best advantage.

SOME RUBBER NOTES FROM LONDON.

ONE of the features of recent parliamentary proceedings at Westminster has been the annual review of Colonial trade by Mr. Harcourt, the Colonial secretary. He referred to the comparative steadiness of receipts of rubber from British West Africa, which, however, were no larger today than seven years ago, describing the increased output of Ceylon and Malaya as "a marvelous result of science applied to forestry." The growth of balata exports from British Guiana was also commented upon, with special reference to the rise from £40,000 to £140,000 within six years.

BRITISH RUBBER GOODS EXPORTS.

British Exports of rubber goods, excluding tires, for the first six months of 1913 amounted to £1,443,778, as compared with £1,322,299 for the corresponding period of 1912 and £1,333,239 for that of 1911. Tires have only been quoted for the first time this year, so an exact comparison is in that case impracticable. The value of tire exports for the first half of this year was £731,361. Insulated wire and cables show for the first six months of 1913 marked advances on the corresponding periods of the two previous years, having been £1,437,803, against £1,041,712 in 1912 and £571,885 in 1911.

SPALDING VS. GAMAGE.

In the judgment lately rendered by the court, the claims of A. G. Spalding & Bros. have been fully supported in the now celebrated "Orb" football case. An order has been issued restraining A. W. Gamage, Ltd., the sporting goods dealers, from advertising and offering for sale as firsts, footballs which had been rejected as inferior by Messrs. Spalding, the manufacturers. Beyond the question of stopping the defendants from selling, was that of damages. In its decision the court evinced a disposition to award compensation for the losses sustained, remarking that a "tort" had been committed. While affirming the principle of awarding damages, it added that the needful details on that subject had not yet been presented.

The case, it will be remembered, grew out of the rejection by Messrs. Spalding of some 6,000 "Molded Orb" footballs which had been found unsatisfactory in 1910, at which time they stopped making balls of this type. In 1912, while still holding the old stock, they brought out the new "Improved Sewn Orb." About May of the last-named year, these old balls were sold to Mellis, Schein & Co. as waste material. This firm sold the balls to the Gamages, who seem to have offered them as the "Improved Sewn football," then being sold by the plaintiffs. The evidence tended to show want of care on the part of the defendants in the advertisements inserted. In handing down its decision the court said that the plaintiffs had every right to complain of the grave damage they had sustained.

THE GORTON RUBBER COMPANY'S STAFF.

In consequence of the recent changes in the Gorton Rubber Co., its staff is evidently making new arrangements. Mr. W. Downs, late sales manager of the company, has joined the Russian Tire and Export Co. in order to develop the band tire business of the Prowodnik Co. Mr. F. G. Billett has been appointed agent for London, Belgium, Holland and Denmark for Redfern's Rubber Works, while Mr. R. S. Humphries, the Gorton Co.'s representative in the Midlands, has taken up that territory for the St. Helen's Cable Co.

RUBASTIC, LTD.

This new rubber substitute, referred to in the European press, is the invention of Mr. F. J. Healey, who belongs to the scientific department of the Faraday Institute London. Mr. Healey is said to have carried out the preliminary investigations and to have subsequently founded a company in Basle to continue his work.

A company has been registered in England with a capital equaling $5,375,000, of which $5,000,000 is in preference shares. The common stock is in shares of one shilling each.

The objects of the company include the smelting of metals, the reason for which is not considered apparent in connection with artificial rubber. Its offices are in Southall, Middlesex, and the officials are said to be French.

The English press is recommending caution, in view of the limited information available. Altho it is said to be adapted for printing rollers, hose and balls, the new article is apparently not claimed in England to be an "artificial rubber."

RUBERITE.

Among the claims made for this newly introduced compounding ingredient, is that of increased elasticity and resiliency in the manufactured product, through mixing with new, waste or reclaimed rubber. It is claimed that it takes the place of carbons, another advantage being that of preventing the adhesion of rubber to the mold. The inventor, Mr. Robert Currie, of 7 Normandy street, London, is known to rubber manufacturers in connection with other improvements.

ELECTRICITY IN MINES.

With reference to the subject of the New Home Office rules as to electricity in mines, Mr. W. T. Anderson of W. T. Glover & Co., Manchester, has called attention to four classes of coverings for light and power cables: rubber; paper lead covered; paper leadless; bitumen. Of these he considers rubber-insulated metal sheathed cables the best, tho their cost renders their adoption in many cases impracticable. Rubber cable is, however, nearly always used for "tailing" cables of other descriptions.

COMMERCIAL VEHICLE SHOW.

The tire section of the Commercial Vehicle Show at Olympia (lasting from July 18 to 26), included 27 exhibits, forming an unprecedently complete display of solid vehicle tires. Among the notable exhibitors was The B. F. Goodrich Co., Ltd., which made a special feature of its rubber studded tires with side flanges. The North British Rubber Co. made a specialty of the "Ducasble" tire, fitted to clincher wheels, while the Michelin Tire Co. showed the "Semelle" non-skid tires, which have for some time been a feature of its product. The regular standard makes of British solid tires were well represented. The "Liga Gummiwerke" of Frankfort, Germany, exhibited their continuous solid band tires, in addition to their rubber matting.

LIGA TIRES, LTD.

This company has been formed to undertake the agency for England of the "Liga Gummiwerke" of Frankfort, German, which was established last year. Mr. S. Patterson is sole director and manager of the company, which claims to have shown for its product excellent records for mileage.

RUBBER TANNED LEATHER CO.

Mr. E. C. C. Smith was lately appointed receiver and manager. He reported at the adjourned meeting that arrangements were pending for the formation of a company with considerable capital. If negotiations were successful, the company would be continued and the creditors paid in full.

RUBBER REGENERATING CO.

This Manchester company is now installing a new horizontal cross-compound condensing engine of 1,000 h. p. It is expected to shut down during the first week of September for the purpose of connecting and starting the new engine.

ALUMINUM FLAKE.

Typke & King are understood to have made arrangements for distributing this product in the United Kingdom, acting for the Gammeter-Brodbeck Sales Co. of Akron, Ohio.

MACINTOSH CABLE CO.

This new company has been registered in London with a capital of £25,000 for the manufacture and sale of cables, chains, wire or ropes. The directors are Sir Frederick H. Smith, Bt., Frederick M. B. Smith and T. H. M. Harvey.

COMPETITIONS AT NEXT YEAR'S LONDON RUBBER EXHIBITION.

THE fourth International Rubber and Allied Trades Exhibition, to be held in London from June 24 to July 9, 1914, includes a number of highly interesting competitions, a special program of which has been issued.

Among the principal competitions are:

INDIA RUBBER WORLD Trophy: Silver cup, value $1,000, for best process of extracting latex from wild *Hevea, Castilloa* or *Manihot* trees;

"Grenier's Rubber News": Silver trophies, value £50 and £15. Best samples of commercial rubber from Malaya, Java, Sumatra and Indo-China;

Association des Planteurs de Caoutchouc, Antwerp: Silver cup for best sample of plantation rubber grown in Dutch East Indies and Indo-China;

Mincing Lane Tea and Rubber Share Brokers' Association: 75 guineas and 25 guineas. New ideas for use of plantation rubber;

President's Trophy: For most interesting exhibit affecting rubber;

West India Committee Competition: Three silver cups for West India Exhibit;

Rubber Growers' Association: (1) Medals—Best commercial samples of plantation rubber; (2) Gold medal—Best exhibit of plantation rubber; (3) £50 and gold medal—Improvements in plantation rubber; (4) Medals—Exhibit of rubber flooring; (5) Gold medal—Rubber articles for commercial purposes; (6) £50 and gold medal—New applications of plantation rubber.

Planters' Association of Ceylon Diamond Jubilee Competition: Trophy. Samples of commercial rubber.

"India Rubber Journal": £25. Plan and description of rubber estate factory; £25, photographs of factory work.

"Rubber World": Trophies, silver cup and salver—Ideal Rubber Estate; Special trophy, Wild rubber.

"Tropical Life": Gold medal—Best sample *Ceará rubber.*

"Gummi-Welt": Gold medal—Rubber manufacturing machine of German manufacture.

Inquiries should be addressed to The Awards Committee, care of A. Staines Manders, 75 Chancery Lane (Holborn), London, W. C., England.

USES OF RUBBER.

Special interest attaches to three of the competitions at the London Rubber Exhibition of 1914, forming Nos. 4, 5 and 6 of the series of six competitions inaugurated by the Rubber Growers' Association.

COMPETITION 4 offers gold, silver and bronze medals for the three best exhibits of rubber flooring in tile or sheet form; open to manufacturers of any country.

COMPETITION 5 offers a gold medal for the greatest variety of articles made from rubber for commercial purposes.

COMPETITION 6 offers a prize of £50 and a gold medal for the discovery and application of each new use for plantation rubber, as may be adjudged the most valuable, special consideration being given to the weight of such rubber which the application is likely to consume.

The scope of these three competitions renders them of special interest to manufacturers.

PRIZES FOR ESSAYS AND PHOTOS.

The "India Rubber Journal," of London, will offer two prizes, to be awarded at the rubber exposition to be held in that city next summer. One prize, of £25, will be offered for the best essay, with diagrams, on rubber estates; and the second, for a like amount, for the best series of photographs of rubber estates.

A NEW RUBBER FROM QUEENSLAND.

READERS will no doubt be interested in a sample received by THE INDIA RUBBER WORLD from Mr. Joseph Campbell, M. A., M. I. M. E., of Cairns, North Queensland, of a rubber extracted by him from a species of Apocynaceous tree, which grows abundantly in and near the North Queensland "scrubs." This, he claims, is the first time wild rubber has been extracted in any quantity in North Queensland.

Rubber planting has been for some time carried on in that state; among others by the Gossypium Park Estates, Limited, of which Mr. Campbell is managing director.

While the company is chiefly interested in the production of cotton, it is engaged to a limited extent in the manufacture of rubber solution and vulcanized sheets; and this fact has caused the members of the company to feel much interested in the general subject of rubber, including both the production of the crude article and its manufacture.

Mr. Campbell's discovery grew out of his work in the laboratory of the company. In his earlier experiments he had used chemically prepared cotton in conjunction with the juices of the trees referred to, but later on he found it was not necessary to do so. His object was to bring about polymerization, on the degree of which the quality of a rubber depends; and by the use of these juices he was able to make three or four different qualities, of which he preserved careful records, being thus in a position to reproduce them at any time.

The rubber made by Mr. Campbell's process has been valued at 3/ per pound, taking the basis of fine hard Pará at 4/2. He estimates that when the company's rubber plantation comes into bearing next year, by mixing his compound with natural rubber latex he can greatly increase the yield. In order to carry his process through the initial stages he has formed a small syndicate. According to Mr. Campbell's report to the London directors of the company, the plantation now approaching the bearing stage includes three acres in *Manihot Dichotoma* and two in *Manihot Glaziovii.* The hurricane of January 30 last put back the trees about six months. He is, however, so satisfied with rubber prospects that he intends bringing the plantation up to 12 acres, ploughing out poor cotton with that end in view.

Queensland has the reputation of extreme fertility, and its needs on the subject of agricultural instruction have been put forward in the present discussion as to the proposed college. As it is understood there are millions of rubber trees in the State, there would seem to be possibility of important results from Mr. Campbell's "Queensland Rubber," provided it has the properties claimed for it, including that of vulcanizing perfectly.

QUEENSLAND AS A SOURCE OF RUBBER.

In a recent press interview Sir Rider Haggard, who has been traveling through Australia and New Zealand on behalf of the Dominion Royal Trade Commission, said the fertility of Queensland was such that he firmly believed there was nothing grown in Ceylon which could not be produced with equal success in that colony. He added that he considered it would be possible to grow rubber in many parts of Queensland, were it not for the labor problem. He added:

"At the present time Queensland is very largely undeveloped, but its wealth is almost unlimited and the natural resources only need the necessary labor to be put into practical use. It is all virgin soil and its fertility is extraordinary."

The principal difficulty as to labor in Australia consists in the objection by the white population to the importation of lowly paid black labor. As a result of the opposition developed, the latter class of workers was all sent out of the country.

Replete with information for rubber manufacturers—Mr. Pearson's "Crude and Compounding Ingredients."

Some Rubber Planting Notes.

THE MALAYAN RUBBER INDUSTRY.

IN view of the present and prospective importance of the Malayan rubber production, special interest attaches to statistics on the subject, lately compiled by Mr. Lawton Brain, Director of Agriculture of the Federated Malay States.

The growth of the industry is shown by the annexed figures:

STATISTICS OF MALAYAN ACREAGE AND YIELD.

Years.	Area under Rubber—acres.	Crop pounds.
1906.....	99,230	935,056
1907.....	179,227	2,278,870
1908.....	241,138	3,339,922
1909.....	292,035	6,741,509
1910.....	362,853	14,368,863
1911.....	542,877	24,904,043
1912.....	621,621	42,462,401

It will thus be seen that the increase of output has been far in excess of that shown for acreage, representing per acre for 1906 about 10 pounds, for 1911 about 50 pounds, and for 1912 about 70 pounds.

An indication of the growing productiveness of the Malay Peninsula is afforded by the fact that between 1911 and 1912 the acreage increased about 15 per cent. and the number of workers about 12 per cent., while the output showed a gain in quantity of 75 per cent. The value would seem to have advanced from £6,000,000 in 1911 to £9,000,000 in 1912—a rise of 50 per cent. Such a result is evidently due to working the estates up to their productive capacity, and at the same time as far as possible economizing the cost of labor.

The relative importance of the area planted with rubber in the various territorial divisions is shown as follows: Federated Malay States, 399,197 acres; Straits Settlements, 94,263 acres; Johore, 91,827 acres; Kelantan and Kedah, 34,837 acres; Trengganu, 1,497 acres; total, 621,621 acres. About two-thirds of the area thus belongs to the Federated Malay States.

Such are a few salient points of this interesting group of statistics, which has been supplemented by another table, showing the area under cocoanuts to be 60,997 acres, or about one-tenth of that under rubber.

PAHANG RUBBER CO., LTD. (FEDERATED MALAY STATES).

The report of the Waterhouse Co., Ltd., of Honolulu, agents for the Pahang Rubber Co., expresses the belief that the manager's estimate of 140,000 pounds of rubber for this year's crop will easily be attained. Last year's production was 60,138 pounds. Attention is called to the natural advantages possessed by the state of Pahang, which, should the labor question be solved, would render the company's property one of the most productive estates in the Malay Peninsula.

PERAK RUBBER PLANTATIONS, LTD. (FEDERATED MALAY STATES).

The report presented at the recent London meeting of this company, shows that its area is now 2,045 acres, of which 1,299 are cultivated. During 1912, 640 acres were tapped, an average of 5¼ pounds each having been produced by 59,200 trees.

For the year 1912 the cost f. o. b. had been 1*s.* 0½*d.* per pound, as compared with 1*s.* 4½*d.* for the previous year. A still further reduction is looked for in the future.

KUANG RUBBER PLANTATIONS (FEDERATED MALAY STATES).

This company (which is under the control of the Société Financierè des Caoutchoucs) in its report for 1912, states that the crop was 11,822 pounds. A yield of 64,500 pounds is estimated for 1913.

RUBBER IN BRITISH ADMIRALTY CONTRACTS.

On a recent occasion Mr. Denman, M.P., asked a question in the British House of Commons affecting rubber. He inquired from the Secretary to the Admiralty as to whether any contracts with that department stipulated that the rubber used should come from foreign sources, asking that such discrimination should be avoided in future.

In his reply, Dr. Macnamara said that the stipulation as to a particular source was generally removed from Admiralty specifications in 1897, the condition as to the supply of Pará rubber being only retained in the case of some unimportant items.

He added: "Our general stipulation is for pure caoutchouc, irrespective of country of origin, and we will consider whether there are still adequate reasons for the retention of Pará in the few cases referred to."

In a detailed report by Messrs. Clayton Beadle & Stevens, the Rubber Growers' Association has put forward a number of arguments in favor of plantation rubber, emphasizing the contention that manufacturers should have the option of using either variety in Admiralty and other government contracts. It is urged that plantation smoked sheet rubbers not only satisfy the claim for the highest class of material, but that the results obtained are practically the same as those secured with hard Pará. Even if the figures are slightly lower, they satisfy the Admiralty tests.

It is added that as plantation Pará passes the rigorous tests of the English government, there is no reason for its exclusion from specifications, particularly as it is a British-grown product.

COMMITTEE OF RUBBER GROWERS' ASSOCIATION.

A representative committee was recently appointed by the Rubber Growers' Association, London, to investigate the late fall in the price of plantation rubber, as well as to report on the possibility of arriving at some arrangement for protecting the interests of producers.

The committee includes: Mr. Noel Trotter, Sir Edward Rosling, Mr. Arthur Lampard, Mr. Richard Magor and Mr. Herbert Wright.

VALLAMBROSA RUBBER CO., LTD. (FEDERATED MALAY STATES).

An interesting report of this company's business was presented at the ninth ordinary general meeting of shareholders held on August 7. Its position is historical, it being among the oldest—if not in fact the oldest—of the successful eastern companies, and having been registered early in 1904.

The total extent planted under rubber is 3,346 acres, of which 1,767 acres planted before 1910 were tapped during the year ending March 31, 1913, while the remaining 1,579 were planted in 1910, 1911 and 1912, and are not yet in bearing.

Returns of the yields for the last seven years to March 31 show: 1906-7, 156,922 pounds; 1907-8, 225,302 pounds; 1908-9, 272,741 pounds; 1909-10, 371,316 pounds; 1910-11, 411,476 pounds; 1911-12, 409,880 pounds; 1912-13, 426,484 pounds. The total cost of production and sale in 1912-13 was 1*s.* 5.49*d.* per pound, while the net price realized was 3*s.* 10.75*d.* per pound, as compared with 4*s.* 8.12*d.* for the previous year.

Dividends have been for 1906-7, 55 per cent.; 1907-8, 55 per cent.; 1908-9, 80 per cent.; 1909-10, 250 per cent.; 1910-11, 175 per cent.; 1911-12, 130 per cent.; 1912-13, 100 per cent. The rate of dividend in 1909-10 was due to the exceptionally high price of rubber.

Three estates form the property of the company, situated in the Kapar District, Klang, Selangor. Its progress is interesting as showing the operation of an old company.

TITLE FOR MR. ROSLING.

Shortly after his recent arrival in England, Mr. Rosling, so prominently connected with the Ceylon rubber industry, received from the King the title of "Sir Edward Rosling."

BAMBRAKELLY (CEYLON) TEA AND RUBBER CO.

During the financial year ended March 31 last, the yield secured by the above company was 86,003 pounds, as compared with 47,595 pounds for the preceding annual period. The area tapped was 338 acres, the average per acre being thus about 250 pounds.

SIAK (SUMATRA) RUBBER ESTATES, LIMITED.

In order to meet the requirements of their increasing output, the Siak Rubber Estates are putting up a new factory, at an expense of £3,000 ($15,000); the cost of which will be shared by the neighboring Pakan Baroe Estates, Limited. The factory will be the joint property of the two companies, and will have a joint manager and joint medical arrangements; so that the principle of co-operation is fully carried out.

REPLACING TOBACCO BY RUBBER.

In his address at the recent meeting of the Toerangie (Sumatra) Rubber and Produce Estates, Ltd., Mr. C. A. Lampard stated that after harvesting the area now planted with tobacco, it was intended to discontinue that cultivation and to devote attention solely to rubber. The area under the latter is now about 1,260 acres, and it is contemplated to plant a further 800 acres.

DIRECTOR OF RUBBER CULTURE FOR NETHERLANDS INDIES.

According to a report from Medan (Sumatra), the Netherlands Government has decided on appointing a Director of Rubber Culture. His salary will at first equal $280 per month, rising by annual increments to $400 a month.

TANDJONG RUBBER CO. (SUMATRA).

Returns for the twelve months ended June 30, 1913, show for the above company a crop of 217,284 pounds against 34,864 pounds for the corresponding period of 1911-1912.

THE PROSPECT FROM A JAVA COMPANY'S STANDPOINT.

At the recent London meeting of the Djember Rubber Estates, Limited, Mr. H. C. Hadfield, chairman, expressed the opinion that motor traction is only in its infancy. He added that if rubber dropped to 2s. 6d. per pound, it would be a risky matter to equip and send expeditions to the interior of Brazil, which require a large outlay before any rubber can be marketed. He quoted an estimate that Java would soon be able to place rubber on the London market at 1s. per pound, adding that should the price go down to 2s. 6d. the company would still have a very lucrative article to dispose of.

JAVA PARA RUBBER ESTATES, LIMITED.

On the occasion of the London meeting of the Java Pará Rubber Estates, Limited, Major Frank Johnson, the chairman, referred to the generally admitted opinion that Brazil could not produce wild rubber under 3s. per pound. If the article permanently reached that price or less, the production of wild rubber would slowly but surely cease; leaving the world's demands to be met by the product of the plantations. It would then, he added, be a case of the survival of the fittest.

PLANTATION RESULTS PER ACRE.

In addressing the recent London meeting of the British Rubber Estates of Java, Mr. Stanlake Lee, chairman, said that with rubber at its present price, or much less—say 2s. 6d.—the rubber plantation industry would still remain one of the most profitable fields for the investment of capital.

A fair average production, he added, is represented by 400 pounds per acre per annum. At 6d. per pound profit this makes £10; that is, 20 per cent. on a capital of, say, £50 per acre.

RUBBER PLANTATIONS IN THE DUTCH EAST INDIES.

Apropos of the International Congress and Exhibition which are to be held in Java in the Fall of 1914, it is interesting to note the extent of foreign rubber plantations in the Dutch East Indies—which comprise Sumatra, Java, the greater part of Borneo, most of New Guinea and various smaller islands. The foreign capital invested in rubber estates in these islands amounts to $92,000,000, the greater part of which represents British investments. A recent consular report places the amount of American capital invested in rubber plantations in these islands as $4,000,000. This probably is rather an under-estimate and does not take into consideration the large amount of money the United States Rubber Co. has recently put into its 80,000-acre tract in Sumatra.

LAND BANK FOR DUTCH GUIANA.

In its annual report on conditions in Dutch Guiana, the British Legation at the Hague records the fact that the colony had an unsatisfactory year in 1912. The causes assigned for this situation include drought and scarcity of labor, the balata industry being thereby particularly affected.

With a view to affording Surinam agriculturists much needed credit facilities, the establishment of a "Land Bank" has been proposed. This undertaking, it has been hoped, would meet with the support of the Netherlands government, but a measure introduced for that purpose has been defeated in the Dutch Second Chamber.

LOK KAWI RUBBER, LTD. (NORTH BORNEO).

The yearly report of the above company to December 31, 1912, shows a total of 1,685 acres under rubber, with approximately 221,000 trees. It is added that the labor force consists of 307 Chinese.

CASTILLOA PROGRESS IN COSTA RICA.

RUBBER AND BALATA IN BRITISH GUIANA.

AMONG the characteristics of the great tropical forest of the South American continent are its dampness and its luxuriant vegetation. It is in these regions of Brazil that the *Hevea Brasiliensis* grows indigenously, thriving in a humid atmosphere. These features being reproduced in the forest region of British Guiana, it is natural to look to that section as affording facilities for the growth of Pará rubber.

This variety grows best on the flat but well-drained lands along the banks of rivers, as well as upon the lower slopes of hills. An official estimate places at nearly 11,000,000 acres the area of accessible lands in the colony, of which 9,000,000 are as yet not alienated from the Crown. A large part of these lands is considered suitable for Pará rubber, and in order to develop this cultivation the government has established in various districts experimental plantations. The points sought to be ascertained have been the rate of growth, the best cultural methods and the yields of the different trees.

Results of experiments have shown that *Hevea Brasiliensis* grew vigorously in most instances. Experiments were undertaken in 1905 with *Sapium*, the outcome of which was so encouraging that all land now being put into rubber is practically being planted with *Hevea Brasiliensis*.

Figures issued by the Board of Agriculture are instructive. In 1907-8 the total was 416 acres, while in 1911-12 it had increased to 2,259 acres, of which about 1,700 are under Pará rubber and the remainder the indigenous *Sapium*. Owing to the active demand for Pará seedlings it is anticipated that the area under rubber will be greatly increased during the next few years.

SEEDS.

In 1897-1899 several Pará rubber trees were distributed from the Botanic Gardens. These have grown well, and their seeds have been collected and planted, but the colony will for some years have to depend on supplies of seeds from the East for the expansion of rubber cultivation.

Within the last four years more than a quarter of a million seeds have been imported by the government, from which the average germination has been nearly 80 per cent. The plants raised from these seeds have been sold at cost to cultivators. Increased orders have been placed by the government for seeds to meet the larger demands for plants.

TAPPING.

Tapping of Pará rubber has been started at two estates on the Demerara, one in Berbice and at the experimental stations of Onderneming and Issorora, the yields having been reported as satisfactory, and the product of good quality. At Issorora experimental station in the northwestern district, one-fourth of the Pará rubber trees at four years of age were of tappable size.

COST OF CULTIVATION.

On flat lands requiring drainage, the cost, including superintendence and the purchase of plants, represented $65-$70 per acre for the first year, and $25-$30 in subsequent years. On higher ground, where the initial expenses of drainage are less, the first year's cost might be reduced to $48 per acre.

LABOR.

No complaints have been heard of scarcity of labor for the operations of plantation companies, and it is considered that a sufficient supply will be available for the next five years. The opinion has, however, been expressed that, as with the sugar industry, it may be ultimately necessary to obtain indentured labor from the East.

WILD RUBBER.

The indigenous *Sapium* furnishes small quantities of rubber from the forests. This, it is said, has been exported for many years as "Orinoco Scrap." In 1904-5 the exports of rubber were shown separately as 950 pounds. In 1907-8 nearly 7,000 pounds were exported, since which time the quantity has fallen off. It is said that this reduced collection of rubber is due to the higher profits made by collecting balata.

BALATA.

While the development of the British Guiana rubber industry is to a great extent prospective, balata collection has attained a steady position, the average annual yield since 1908 having been about 1,000,000 pounds. For the three preceding quinquennial periods the figures had been:

	Yearly Average. *Pounds.*
1893-1897	226,625
1898-1902	401,956
1903-1907	427,790

Of the quantity produced, the largest proportion goes to the United Kingdom, the share of the United States having been 9 per cent. of the total in 1904-5 and 15 per cent. in 1911-12.

According to the "Handbook of British Guiana, 1913," balata takes the third rank in the exports of the colony. The total annual exports represent about $11,000,000, of which about $7,000,000 consist of sugar, $1,000,000 of gold and nearly $750,000 of balata.

GROWTH OF BALATA.

The balata trees of British Guiana are to be found all over the colony, particularly on the banks of the smaller rivers and creeks in the low-lying lands. They are possibly more abundant in the county of Berlice, where the industry of balata collecting has been established for thirty years, practically all the male population in the Canje district taking part in the work.

With the growing demand for balata its value has increased, and search has been made for the article in the districts of the far interior, notably in the upper reaches of the Essequibo river, from which point some of the best shipments are being received.

TAPPING.

Changes in meteorological conditions considerably affect the yield per tree, the average of one gallon of latex each which they usually give at the first tapping equaling about five pounds of dry balata.

In tapping balata trees, incisions not exceeding 1½ inches in width are made, about 10 inches apart, with a cutlass. The cuts are in a "feather stitch" pattern, going up the trunks. Tapping starts at the base of the tree and at first only reaches a height of 12 to 15 feet, but later on is often conducted as high as the principal branches. A zig-zag course is pursued by the latex from cut to cut, till it reaches a calabash at the base of the tree. From these calabashes it is gathered into gourds or kerosene tins. Being then taken to the camp, it is poured into shallow trays (*dabrees*), with a capacity of five to thirty gallons, where it congeals and from which it is removed in sheets. After being allowed to drain these are hung up in a drying shed, and are forwarded when dry to town for the purpose of transshipment. It takes four to five years for the cuts to heal, and no further tapping is permitted during that time.

The minimum girth at which bleeding is allowed is 36 inches at the height of four feet. Only one-half of the girth may be bled at one time.

Owners of balata grants have to take out licenses for the sections in which they propose to operate. These licenses run for fifteen years, or during the King's pleasure, and do not include any planting rights.

BALATA BLEEDERS.

Balata is collected by black and colored laborers, who are paid according to the quantity gathered, and have to be registered before employment. At that time they usually get money advanced for the purchase of food and implements. After reaching the tract to be worked, a camp of rough leaf-covered huts is constructed, and preparations are made for the collection and congelation of the latex. Small cuts are made in the nearest trees to ascertain their condition and the prospects of their repaying tapping.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JULY 1, 1913.

NO. 1,065,942. Vehicle wheel. E. Hopkinson, East Orange, N. J.
1,065,978. Tire. W. T. Smith, Bolton, England.
1,066,121. Bath apparatus. J. F. King, Milwaukee, Wis.
1,066,210. Tire shoe releasing tool. P. T. Mahon, Cranston, R. I.
1,066,217. Swimming and life preserving belt. M. D. Nekarda, New York.
1,066,268. Combined eraser and brush. A. M. Goldzier, New York.
1,066,381. Foot cushion for sewing machine. R. E. Daniel, Spartanburg, S. C.

Trade Mark.

66,634. Revere Rubber Co., Providence, R. I. The initials *H. C.* Belting, hose and packing, etc.

ISSUED JULY 8, 1913.

1,066,480. Artisan's india-rubber glove. H. C. Finlay, Sydney, New South Wales, Australia.
1,066,516. Life saving suit. J. E. Moore, Nelson, British Columbia, Can.
1,066,524. Garter. B. W. Parker, New York.
1,066,697. Swimming glove. L. M. Baker, Columbus, Ohio.
1,066,759. Elastic cord or strand. M. W. Schloss, New York.
1,066,784. Elastic tire for automobiles. C. W. Barrett, San José, Cal.
1,066,851. Tire protector. T. Y. Stewart, Winnipeg, Manitoba, Can.
1,066,873. Vent for nursing nipples. P. Wisotzky, Frankfort-on-the-Main, Germany.
1,067,012. Eraser. E. Faber, New York.
1,067,051. Atomizer comb. J. J. Moore, South Charleston, Ohio.

Design.

44,298. Rubber vehicle tire. J. Connolly, Detroit, Mich.

Trade Marks.

66,101. Adhesive Vulko-Fiberene Co., Oklahoma, Okla. The words *Vulko-Fiberene* in a disconnected circle. A liquid compound for preventing and stopping leaks in pneumatic tires.
67,467. The Russell Mfg. Co., Middletown, Conn. The word *Rusco.* Woven machine belting.

ISSUED JULY 15, 1913.

1,067,239. Guard for tires. A. W. Crain, Petroleum, Ind.
1,067,307. Vehicle tire. J. Christy, Akron, Ohio.
1,067,337. Hose coupling. H. H. Hewitt, Buffalo, N. Y.
1,067,361. Wheel tire. T. Midgley, assignor to The Hartford Rubber Works Co.—both of Hartford, Conn.
1,067,386. Vehicle wheel. J. J. van Iderstine, Kansas City, Mo.
1,067,497. Vaginal syringe. H. S. Williams, San Diego, Cal.
1,067,507. Antiskidding vehicle wheel tire. M. A. Dees, Pascagoula, Miss., and T. M. Dees, Midlothian, Texas, assignors to American Tire Co., St. Louis, Mo.
1,067,558. Pneumatic tire for vehicle wheels. Jacques Steinberg, Paris, France.
1,067,563. Armored tire. A. G. Wagner, Akron, Ohio.
1,067,639. Resilient tire. W. E. Budd, Elizabeth, N. J.
1,067,668. Resilient tire. H. McCleary, Washington, D. C.
1,087,726. Automobile tire. H. P. Fouque, New York.
1,067,754. Article of footwear. J. H. Pearce, Westmount, Quebec, Can.
1,067,761. Sanitary belt and pad. A. Schulz, Westfield, N. J.

Trade Marks.

68,692. Lee Tire & Rubber Co., Whitemarsh township, Montgomery county, Pa. Illustration of man's face in section of tire.
71,001. Illinois Iron & Bolt Co., Carpentersville, Ill. The words *Southern Crescent* over illustration of moon and sun. Tire benders and tire shrinkers.
71,151. I. B. Kleinert Rubber Co., New York. The word *Triton.* Dress shields.
71,158. Morris Barrow, New York. The word *Poca.* Dress shields.

ISSUED JULY 22, 1913.

1,067,844. Open bellied pneumatic tire shoe. C. S. Scott, Cadiz, Ohio.
1,067,913. Non-skidding device for wheels. W. E. Gerth, Chicago, Ill.
1,067,949. Resilient tire. W. S. Temple, Sidney, Ill.
1,068,022. Liner for pneumatic tires. R. K. Taylor, assignor to G. S. Field—both of Detroit, Mich.
1,068,025. Tire. R. M. P. Thorp, Cambridge, Mass.
1,068,040. Sectional solid tire. J. C. Cole, assignor to Fisk Rubber Co.—both of Chicopee Falls, Mass.
1,068,041. Rim construction. J. C. Cole, assignor to Fisk Rubber Co.—both of Chicopee Falls, Mass.
1,068,073. Non-slipping rubber heel. E. G. Perkins, San Francisco, Cal.
1,068,180. Tire testing machine. K. W. Sonntag, St. Louis, Mo.
1,068,181. Resilient wheel. G. E. Sprague, West End, Ill.
1,068,224. Vehicle wheel. E. De Journo, Allentown, Pa., assignor to S. Labe, New York.
1,068,362. Water bag. C. J. O'Riely, Los Angeles, Cal.

Designs.

44,380. Fire hose connection. A. Michak, Rhone, Pa.
44,383. Tire. H. K. Raymond, assignor to The B. F. Goodrich Co.—both of Akron, Ohio.
44,384. Tire. H. K. Raymond, assignor to The B. F. Goodrich Co.—both of Akron, Ohio.
44,385. Tire. H. K. Raymond, assignor to The B. F. Goodrich Co.—both of Akron, Ohio.

Trade Mark.

70,164. "Semperit" Oesterreichisch-Amerikansche Gummiwerke Aktiengesellschaft, Vienna, Austria.

ISSUED JULY 29, 1913.

1,068,491. Armored hose. W. H. Eynon, Cleveland, Ohio.
1,068,497. Apparatus for tapping rubber trees. E. W. Graves, assignor to Graves & Graves Co.—all of Boston, Mass.
1,068,532. Steel spring automobile tire. O. G. Rugtwet, Longmont, Col.
1,068,572. Wheel. W. H. Dean, Newark, Del.
1,068,590. Wheel. K. Jasiecki, Philadelphia, Pa.
1,068,619. Pneumatic tire. R. J. Wynn, Sault Ste. Marie, Mich.
1,068,653. Apparatus for repairing tires. W. A. Hinds, Hartford, Conn., assignor of one-half to S. H. Hoverter, and one-half to H. E. Eberly, Reading, Pa.
1,068,654. Expander for tire vulcanizers. W. A. Hinds, assignor of one-half to S. H. Hoverter, and one-half to H. E. Eberly—all of Reading, Pa.
1,068,720. Spring tire. Charles A. Wheaton, Stockton, Cal.
1,068,816. Life preserver. J. R. Ortman, Raynesford, Mont.
1,068,866. Life saving suit. W. A. Douglas, Centralia, Wash.
1,068,892. Protective casing for tires. W. R. Green, Chicago, Ill.
1,069,015. Automobile tire pump. A. Jabusch, Deer Park, Wis.
1,069,025. Automobile wheel and rim. G. P. Pappadakes, New York.
1,069,059. Automobile wheel. E. R. Frederick, Shelby, Mich.

Designs.

44,407. Tire tread. A. H. Marks, assignor to The B. F. Goodrich Co.—both of Akron, Ohio.
44,408. Golf ball. P. A. Martin and J. Stanley, Birmingham, England.

Trade Marks.

68,284. O. M. Mackie, Brantford, Canada. The words *Lastic-Air.* Tire fillers.
70,897. Hood Rubber Co., Watertown, Mass. The word *Redwing* in fancy oval. Rubber boots and shoes, etc.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the application, which in the case of these listed below was in 1911 and 1912.
**Denotes Patents for American Inventions.*

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 2, 1913.]

5,942 (1912). Tread band projections. A. E. Wale, Coleshill, near Birmingham, and Wale's Invulnerable Tyre Syndicate, Broad Street House, London.
5,948 (1912). Rubber protectors for boots. J. A. Redfern, The Cottage, Raglan street, Hyde, Cheshire.
6,081 (1912). Rubber in tire covers. J. B. Salmon and E. W. Roy, 213 Princes street, Dunedin, New Zealand.
6,085 (1912). Anaesthetic inhalers. W. de C. Prideaux, 12 Frederick Place, Weymouth, Dorset.
6,216 (1912). Life belts. C. L. Menzel, Nobby, Queensland, Australia.
6,299 (1912). Synthetic caoutchouc. I. Ostromislensky, and Obstchestvo Proizvodstva and Torgovli Resinovymi Izdeliami "Bogatyr" 15, Miasnitzkaia, Moscow, Russia.
6,300 (1912). Synthetic caoutchouc. I. Ostromislensky, and Obstchestvo Proizvodstva and Torgovli Resinovymi Izdeliami "Bogatyr" 15, Miasnitzkaia, Moscow, Russia.
6,301 (1912). Erythrene and isoprene.* I. Ostromislensky, and Obstchestvo Proizvodstva and Torgovli Resinovymi Izdeliami "Bogatyr" 15, Miasnitzkaia, Moscow, Russia.
6,324 (1912). Tire jackets and covers. A. E. Wale, Coleshill, near Birmingham, and E. H. Jones, 318 Euston Road, London.
*6,581 (1912). Improvements in elastic tires. M. Overman, 391 West End avenue, Manhattan, N. Y.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 9, 1913.]

*6,594 (1912). Resilient sections in tires. P. G. Seward, Petersburg, Va., U. S. A.
*6,663 (1912). Tread band surfaces. N. H. Horne, 2511 E. 9th street, Kansas City, Mo., U. S. A.
6,688 (1912). Boot containing strips of rubber. C. M. Hart, The Studio, The Lizard, Cornwall.
*6,734 (1912). Cover of pneumatic tire. C. Orsett, 156 Mount Auburn street, Cambridge, Mass., U. S. A.
6,736 (1912). Rims for beaded edge tires. Margetts International Sectional Tyre Co., 56 Moorgate street, and A. J. M. Smith, Venner Villa, Venner Road, Sydenham—both in London.
6,762 (1912). Two-part rubber tread. G. J. Krol, 76 Boulevard de Versailles, Suresnes, Seine, France.
*6,791 (1912). Fabrics treated with rubber, etc. A. H. Henderson, 2624 North Calvert street, Baltimore, Md., U. S. A.

6,798 (1912). Coating aeroplane fabrics, etc. Leduc, Heitz & Co., 79 Boulevard du Montparnasse, Paris.

*6,801 (1912). Resilient tires. G. S. Adams, Seaville, and Eureka Double Resilient Tire Mfg. Co., 220 Erie street, Camden—both in New Jersey, U. S. A.

6,877 (1913). Device for catching balls. O. Bischof, 128 Ringbahnstrasse, Berlin-Hallensee.

6,903 (1912). Caoutchouc substances; intermediate compounds. W. H. Perkin, University, Manchester, and F. E. Matthews and E. H. Strange, 7 Maple Inn, London.

7,045 (1912). Studs for football boots. W. W. Moren, 129 Yorkshire street, and H. F. Hart, 174 Horsedge street—both in Oldham, Lancashire.

7,143 (1912). Moulded emergency tire. A. Turnbull, Mungo Works, Bishopbriggs, Glasgow.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 16, 1913.]

*7,298 (1912). Rubber tread in spring tires. G. Gray, Sisseton, South Dakota, U. S. A.

7,333 (1912). Overlapping of inner tubes. Continental-Caoutchouc und Gutta-Percha Cie, Hanover, Germany.

7,392 (1912). Tread band projections. M. A. Kennedy, 18 Bloor street, East, Toronto, Canada.

*7,443 (1912). Suspenders. W. Kops, 16th street, New York, U. S. A.

*7,444 (1912). Elastic webbing. W. Kops, 16th street, New York, U. S. A.

7,457 (1912). Synthetic caoutchouc. Obstchestvo Proizvodstva and Torgovli Resinovymi Izdeliami "Bogatyr" and I. Ostromislensky, 15 Miasnitzkaia, Moscow, Russia.

7,465 (1912). Mud guards. J. T. Catling, 60 Western Road, Plaistow, London.

7,474 (1912). Corsets. J. F. Gems, Bayford House, Lyndhurst Road, Hampstead.

7,509 (1912). Vessels for collecting latex, etc. F. Worthington and W. Hilliers, 27 Mincing Lane, London.

7,512 (1912). Punching balls. W. M. Brooks, Criterion Works, Great Charles street, Birmingham.

7,513 (1912). Wrappers for spare tires. B. Brooks, Criterion Works, Great Charles street, Birmingham.

7,537 (1912). Fastenings for ends of tires. T. Slack, Wellington Works, Stockport, Cheshire.

7,559 (1912). Solution for finishing fabrics. S. Schreiber, 23 Cloth Fair, and M. Semet, 13 Australian avenue—both in London.

7,579 (1912). Detachable tread bands. E. Scott, Cycle Works, Market Place, Wooler, Northumberland.

7,681 (1912). Block tread of rubber. M. Bouchet, 22 Rue Alphonse de Neuville, Paris.

7,751 (1912). Solid rubber tires. L. Brown and C. Macintosh & Co., Cambridge street, Manchester.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 23, 1913.]

7,856 (1912). Air tubes. F. Arnold, Virginia, and W. H. Johnson, Pefferlaw—both in Ontario, Canada.

7,875 (1912). Reservoir shaving brush. E. A. Wixcey, 13a Finsbury Square, London.

*7,884 (1912). Rubber bottle stoppers. H. B. Smith, Bayside, L. I., N. Y., U. S. A.

7,927 (1912). Tapping rubber trees. H. A. Wickham, Royal Colonial Institute, Northumberland avenue, London.

8,065 (1912). Caoutchouc substitute. P. A. Newton, 6 Breams Building, Chancery Lane, London.

8,187 (1912). Backing of rubber in capsuling bottles.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 30, 1913.]

8,215 (1912). Rubber parts in vent pegs. H. Packard, 240 Barkerend Road, and G. Robinson, 244 Barkerend Road—both in Bradford.

*8,241 (1912). Solid rubber tires. J. D. Ingram, Washburn, Texas, U.S.A.

8,259 (1912). Corsets. R. Cownif, Greenbank, Dalrymple Crescent, Edinburgh.

8,309 (1912). Point protectors for pins. D. J. Thomas, Beckett street, Mountain Ash, Glamorganshire.

8,314 (1912). Elastic waistband for ladies' wearing apparel. C. de Lacote, 37 Mark Lane, London.

8,345 (1912). Elastic bandages. G. Haertel, Kommandit-Ges., 1 Ziegelstrasse, Berlin, and G. Haertel, 42 Albrechtstrasse, Breslau, Germany.

8,353 (1912). Securing reserve tires. W. Banner, Brooklands, Branksome Wood Road, Bournemouth, and H. J. Winton, Motor Works, Hill street, Poole, Dorset.

8,361 (1912). Rubber device for locking vehicle wheels. G. R. Lusty, 66 Dean's Way, Gloucester.

*8,374 (1912). Annular cushion tire. A. Steinhauser, 502 Tabor Road, Philadelphia, Pa., U. S. A.

8,402 (1912). Elastic compositions. G. G. Diesser, 513 Seestrasse, Zurich, Switzerland.

8,407 (1912). Pneumatic cushion tire. W. Wunderli, Nauen-Rüti, Canton Zurich, Switzerland.

8,408 (1912). Cow milkers. A. Sabroe, 2 Am Naff, Hadersleben, Schleswig-Holstein, Germany.

*8,413 (1912). Postmarking machines. F. C. Ielfield, 12 Buffalo street, Silver Creek, N. Y., U. S. A.

8,459 (1912). Air balls for measuring skirts. D. K. Stobie, 44 Chiswick street, Brixton, Johannesburg, Transvaal.

8,496 (1912). Rubber balls in tires. W. Freakley, 86 Wellesley street, Shelton, and H. Avnsley, Portland House, Blyth Bridge—both in Stoke-on-Trent.

*8,519 (1912). Improvements in fountain pens. F. W. Howard, 509 West 161st street, New York, N. Y., U. S. A.

8,523 (1912). Rubber-like material from fish. Naamlocze Vennootschap Algemeene Uitvinding Exploitatie Maatschappij, 245 Haarlemmerweg, Amsterdam.

8,554 (1912). Reformed and vulcanized rubber. T. Gare, Bristol Road, Birmingham.

8,597 (1912). Rubber rings in friction gearing. G. P. Otting, 33 Chichester Road, Kilburn, London.

8,610 (1912). Pneumatic cushions for wheels. R. Tickner, 149 Armagh Road, Old Ford Road, Bow, London.

8,621 (1912). Pneumatic tire of felt, etc. S. Jamiolkowski, 21 Przemyslowa, Warsaw, Russia.

8,630 (1912). Preventing the rattling of windows. V. Trevett, 93 Branfield Road, New Wandsworth, London.

8,676 (1912). Extracting rubber from Landolphia and other vines. S. Goldreich, 2 Broad Street Place, London.

8,723 (1912). Separate molding and vulcanizing of tread bands. W. C. Johnson, Broadstone Farm, Colemans Hatch, Sussex.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

452,788 (December 31, 1912). J. W. H. Dew and The Azulay Syndicate, Ltd. Improvement in manufacture of covers for pneumatic tires.

452,789 (December 31). J. W. H. Dew and The Azulay Syndicate, Ltd. Improvements in manufacture of solid rubber and other tires.

452,806 (December 31). W. J. Woodcock. Automobile tires.

452,836 (January 3, 1913). J. L. Vincent. Movable tires for motor trucks.

452,893 (January 6). A. Haller. Elastic vehicle wheel.

452,899 (January 6). W. C. Sneyd and D. V. Jones. Repairs to solid elastic tires during progress of vehicles.

452,903 (January 6). Mme. Du Michel. Manufacture of rubber articles.

452,943 (January 7). Mablou and Carnell. Preparation of artificial gums from starchy substances.

452,969 (January 7). T. Goldmeyer. Sectional air chamber for automobiles.

452,916 (January 7). G. Evans. Improvements in movable rubber heels.

453,008 (January 10). M. P. Prince and C. M. Bernheimer. Improvements in sectional pneumatic tires.

453,054 (January 11). Mold for making hollow rubber objects, especially air chambers for pneumatic tires.

453,097 (January 13). Improvements in the manufacture of "gaiters" for repairing pneumatic tires or in the manufacture of tires.

453,199 (January 15). M. D. Rucker. Improvements in elastic tires.

453,323 (January 17). G. Schneider. Skating sole in rubber of special design.

453,215 (January 15). Zieger and Wiegand. Rubber glove for surgical operations.

453,394 (January 20). L. Collardon. Basic substances for rubber.

453,408 (January 21). W. D. McCormack. Elastic vehicle tires.

453,418 (January 21). C. Martin. New rubber composition.

453,513 (January 21). J. T. Sipe and H. E. Sipe. Improvements in elastic wheels.

453,575 (January 25). W. F. Bersley. Vehicle tires.

453,687 (January 27). C. Sougues. Mudguard with elastic suspension and continuous lubrication.

453,747 (January 29). L. Hervé and C. Marchand. Mudguards for vehicle wheels.

453,890 (January 13). G. Frot. Mudguard for automobiles.

453,915 (February 1). R. W. Sampson. Improvements in plugs for repairing perforations in pneumatic tires.

453,908 (February 1). E. H. Grenet. Rubber valve.

[NOTE.—Printed copies of specifications of French patents can be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

THE GERMAN EMPIRE.

PATENTS ISSUED (with Dates of Validity).

263,398 (November 28, 1912). Stuffing box packing. Wilhelm Strube, G. m. b. H., Madgeburg.

262,956 (January 15, 1911). Cement for bicycle tires. Pneudichtol Gesellschaft, G. m. b. H., Hanover.

263,109 (September 16, 1909). Manufacturers of insoluble masses from phenols and formaldehyde. Dr. Fritz Pollak, Berlin, Nürnbergerstrasse, 67.

262,903 (March 5, 1912). Rubber tubes for pneumatic tires. Hermann Zeumer, Karlsruhe.

262,904 (July 25, 1911). Vulcanizing appliance for repair of rubber tires. Toledo Computing Scale Company, Toledo, U. S. A.

263,174 (October 22, 1912). Rubber tires with cross-borings and cross-grooves. Benjamin Wladimirowitsch, Wittenberg, Riga.

THE FARMER WHO DARNED HIS TIRE.

An exchange has a story about a Kansas farmer whose inner tube gave way and who thought he could take care of the matter without expert assistance. Accordingly—so the story runs—he secured a strip of rubber and a darning needle and thread and proceeded to sew the strip of rubber on the tube over the puncture; but as it still leaked he took it to the agent in town and told him what he thought of it. Whatever else may be said about this particular agriculturist, this certainly is true, that any man who has a blow-out and only darns his tire is a model of moderation.

Report of the Crude Rubber Market.

THE crude rubber market during the last month has been exceedingly quiet. Prices have fluctuated within narrow limits. Buying has been only for present requirements and on a small scale. It is fairly obvious that big interests are not disposed greatly to increase their stocks at present prices; and on the other hand, sellers are not inclined, at present at least, greatly to shade the current quotations. In a general way the trend of prices for the month has been upward. On July 26 (the report in the August issue of THE INDIA RUBBER WORLD covered the month of July up to the 25th) upriver fine sold in London for 3s. 7d., and plantation pale crepe at 2s. 9½d. With various fluctuations, these prices increased to August 16, when upriver fine sold at 3s. 10¾d., and plantation crepe at 2s. 10d. From that point there has been a gradual and slight subsidence, the closing figures on August 27 being 3s. 9½d. for upriver fine and 2s. 8d. for plantation crepe. The month ended with a larger difference between Pará and plantation than was shown a month ago, the difference on July 26 being 9½d., and on August 27 1s. 1½d.

In New York the lowest figures for the period covered was on July 26, when upriver fine was quoted at 86c. to 87c., and plantation crepe at 69 to 70c. The highest figure for upriver fine in this market was 94c., at which price it was quoted on six different days, viz., August 11th and 12th, and from the 16th to the 20th, inclusive. One interesting feature of the local market during the month was the fact that on July 31 islands fine sold at 72c., the lowest figure for this grade in some years.

The auction sales in London developed nothing particularly exciting. At the fortnightly sale, held on July 29, there were moderate offerings of about 650 tons, which did not affect prices appreciably. At the auction four weeks later (that was on the 26th of August) 1,000 tons of plantation grades were offered, but only 400 tons were sold, smoked sheets selling at 2s. 9d., while pale crepe opened at 2s. 7¾d., and later declined to 2s. 7¼d.

Below is a brief table showing the prices for upriver fine and plantation crepe at the closing (as given in this publication) for the last five months, together with the difference in price between these two grades of rubber:

	Upriver Fine	Plantation	Difference.
April 26	3s. 4½d.	3s. 2½d.	2d.
May 26	3s. 8½d.	3s. 2½d.	6d.
June 25	3s. 8¾d.	2s. 11d.	9¾d.
July 26	3s. 7d.	2s. 9½d.	9½d.
August 27	3s. 9½d.	2s. 8d.	1s. 1½d.

NEW YORK QUOTATIONS.

FOLLOWING are the quotations at New York one year ago, one month ago, and August 30—the current date:

PARA.	Sept. 1, '12.	Aug. 1, '13	Aug. 30, '13.
Islands, fine, new	112@113	74@75	77@78
Islands, fine, old	.....	.....	.....
Upriver, fine, new	122@123	85@86	88@89
Upriver, fine, old	124@125	92@93	92
Islands, coarse, new	58@ 59	30@31	29@30
Islands, coarse, old	.....	.....	.....
Upriver, coarse, new	96@ 97	51@52	51@52
Upriver, coarse, old	.....	39@40	.....
Cametá	67@ 68	37@38	37@38
Caucho (Peruvian) ball	92@ 93	51@52	50@51
Caucho (Peruvian) sheet	80@ 81	.....	.....
PLANTATION CEYLONS.			
Fine smoked sheet	121@122	70@71	70@72
Fine pale crepe	120@121	68@69	67@68
Fine sheets and biscuits	117@118	.....	65@66
CENTRALS.			
Esmeralda, sausage	85@ 86	52@	50@51
Guayaquil, strip	.....	.....	none here
Nicaragua, scrap	84@ 85	52@	50@51
Panama	.....	.....	none here
Mexican plantation, sheet	93@ 94	.....	none here
Mexican, scrap	84@ 85	52@	48@49
Mexican, slab	.....	35@	none here
Mangabeira, sheet	.....	.....	.....
Guayule	57@ 58	.....	.....
Balata, sheet	88@ 89	70@72	70@71
Balata, block	60@ 61	51@53	50@51
AFRICAN.			
Lopori, ball, prime	none here	62@	58
Lopori, strip, prime	none here	60@	.....
Aruwimi	104@105	55@57	45@47
Upper Congo, ball red	107@108	55@56	56@58
Ikelemba	none here	57@58	.....
Sierra Leone, 1st quality	100@101	55@58	53@54
Massai, red	102@103	62@63	.....
Soudan Niggers	none here	50@55	.....
Cameroon, ball	none here	40@49	38@43
Benguela	none here	.....	.....
Madagascar, pinky	none here	55@60	.....
Accra, flake	26@ 27	24@25	.....
EAST INDIAN.			
Assam	none here	35@70	none here
Pontianak	6¼@6⅜	6⅜@6⅝	6¼@6½
Borneo	none here	32@30	none here

New York.

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York) advises as follows: "During August the market conditions regarding commercial paper have continued just about the same as in July, the demand being light and principally from out-of-town banks, with rates 6@6¼ per cent. for the best rubber names and 6½@6¾ per cent. for those not so well known.

NEW YORK PRICES FOR JULY (NEW RUBBER).

	1913.	1912.	1911.
Upriver, fine	$0.84@ .92	$1.10@1.19	$0.99@1.17
Upriver, coarse	.51@ .56	.85@ .91	.82@ .96
Islands, fine	.74@ .81	1.00@1.08	.92@1.10
Islands, coarse	.29@ .34	.54@ .57	.58@ .63
Cametá	.37@ .40	.62@ .65	.70@ .75

Rubber Scrap Prices.

LATE NEW YORK QUOTATIONS.—Prices paid by consumers for carload lots, per pound.

	July 30, '13.
Old rubber boots and shoes—domestic	8¼@ 8⅜
Old rubber boots and shoes—foreign	8¼@ 8⅜
Pneumatic bicycle tires	5 @ 5⅛
Automobile tires	8½@ 8⅝
Solid rubber wagon and carriage tires	8¾@ 8⅞
White trimmed rubber	10⅝@10¾
Heavy black rubber	4½@ 4⅝
Air brake hose	5¼
Garden hose	1 @ 1¼
Fire and large hose	2 @ 2⅛
Matting	⅝@ ¾
No. 1 white auto tires	9½@ 9¾

Statistics Para India Rubber (in Tons) Including Caucho.

STATISTICS FOR THE MONTH OF JULY.

	Pará.	Caucho.	1913. Tons.		1912. Tons.	1911. Tons.	1910. Tons.
Receipts at Pará	1,430	690 =	2,120	against	1,940	1,420	2,330
Shipments to Liverpool	530	240 =	770	"	910	1,020	990
Shipments to Continental Ports	30	150 =	180	"	410	130	210
Shipments to America	690	260 =	950	"	1,170	910	890
American Imports	810	380 =	1,190	"	1,160	1,320	770
American Deliveries	790	380 =	1,170	"	1,200	1,290	600
Liverpool Imports	519	197 =	716	"	1,261	739	1,253
Liverpool Deliveries	698	292 =	990	"	1,161	1,699	1,544
Continental Imports	10	50 =	60	"	480	140	170
Continental Deliveries	50	120 =	170	"	460	190	170

VISIBLE SUPPLY—1ST AUGUST, 1913.

	1913. Pará.	1913. Caucho.		1912.	1911.	1910.
Stock in England, Pará, 1st hands	941	.....	} 940	{ 3,360	1,244	
Pará, 2nd hands	64	.....	}	{	236	
Caucho	.....	534	530	780	600	
Stock in Pará, 1st hands	330	110	250	490	510	
2nd hands	450	220	500	670	230	
Syndicate	810	.....	1,750	2,270	.....	
Stock in America	160	40	130	330	310	
Stock on Continent	10	130	120	60	50	
Afloat—Europe	350	270	790	820	450	
Afloat—America	160	50	390	280	300	
	3,275	1,354				
Total Visible Supply, including Caucho.	4,629		5,400	9,510	3,930	

POSITION—1ST AUGUST, 1913.

Increase in Receipts during July, 1913, against July, 1912..... 180
Decrease in Deliveries—New Crop, July, 1913, England and Continent, against 1911..... 461
Decrease in Deliveries—New Crop, July, 1913, America, against 1912.. 30
Decrease in Visible Supply Pará Grades, against 1st August last year.. 771
Increase in Stock, England, July 31st, 1913, against July 31st, 1912.. 69

WM. WRIGHT & CO., Brokers.

Liverpool, 5th August, 1913.

During the month 170 tons, including 50 tons Caucho, have been shipped from Europe to America.

Liverpool.

WILLIAM WRIGHT & Co. report [August 1.]

Fine Pará.—The market has been dull owing to the high prices ruling for the near positions, distant offers at a decided discount but buyers holding aloof. Prices have declined somewhat, but the tone at the close is firm. Receipts are larger than last year, but the increase is in Caucho, being 2,160 tons, including 730 tons Caucho, against 2,100 tons last month, and 1,940 last year, showing a decrease of 40 tons in Rubber and an increase of 260 tons in Caucho.

WEEKLY MOVEMENT OF LONDON PRICES FOR FINE PARA, 1913.

[IN SHILLINGS AND PENCE PER POUND.]

January 3, 1913	4/7¼	May 2	3/5½
January 10	4/6½	May 9	3/8¾
January 17	4/6½	May 16	3/10
January 24	4/5¼	May 23	3/9
January 31	4/4	May 31	3/8½
February 7	4/2¼	June 6	3/9¼
February 14	4/3	June 13	3/9
February 21	4/0½	June 20	3/8¾
February 28	4/0½	June 27	3/9½
March 7	3/10¾	July 4	3/9¾
March 14	3/11¼	July 11	3/9
March 20	3/11	July 18	3/9½
March 28	3/9½	July 25	3/8
April 4	3/6¼	August 1	3/8½
April 11	3/4½	August 8	3/10
April 18, 1913	3/4¼	August 15	3/10½
April 25	3/4½		

IMPORTS FROM PARA AT NEW YORK.

[*The Figures Indicate Weight in Pounds.*]

AUGUST 5.—By the steamer *Gregory*, from Pará and Manáos:

	Fine.	Medium.	Coarse.	Caucho.	Total.
Arnold & Zeiss	69,200	12,300	71,400	16,600=	169,500
General Rubber Co.	3,200	1,100	38,900	3,400=	46,600
Meyer & Brown	30,100	.....	12,100	49,900=	92,100
H. A. Astlett & Co.	3,600	2,100	17,800	1,700=	25,200
Henderson & Korn	13,400	1,800	700	.....=	15,900
Henderson & Korn	.....	4,300	28,400	.....=	32,700
Total	119,500	21,600	169,300	71,600=	382,000
Transhipped from steamer *Javary:*					
W. R. Grace & Co.	100	.....	1,100	26,800=	28,000
Meyer & Brown	.....	.....	.....	13,800=	13,800
	100	.....	1,100	40,600=	41,800
Total	119,600	21,600	170,400	112,200=	423,800

AUGUST 15.—By the steamer *Boniface*, from Pará and Manáos:

Arnold & Zeiss	212,700	11,300	65,100	89,600=	378,700
General Rubber Co.	59,100	9,100	30,200	700=	99,100
Meyer & Brown	82,200	10,200	51,100	161,000=	304,500
H. A. Astlett & Co.	15,600	.....	62,700	2,200=	80,500
Henderson & Korn	23,200	9,100	57,600	14,000=	103,900
Ed. Maurer	9,300	15,000	13,900	4,500=	42,700
Ed. Maurer	.....	.....	1,500	.....=	1,500
G. Amsinck & Co.	16,000	5,000	10,800	.....=	31,800
Crossman & Sielcken	.....	.....	2,400	1,600=	4,000
Total	418,100	59,700	295,300	273,600=	1,046,700

PARA RUBBER VIA EUROPE.

		Pounds.
JULY 12.—By the *Amerika*=Hamburg:		
Various (Fine)		3,000
JULY 12.—By the *Caronia*=Liverpool:		
Arnold & Zeiss (Fine)	33,500	
Arnold & Zeiss (Coarse)	11,200	
Henderson & Korn (Fine)	2,000	
General Rubber Co. (Fine)	2,000	48,700
JULY 19.—By the *Matura*=Ciudad Bolivar:		
General Export & Commission Co. (Fine)		17,000
JULY 24.—By the *Pennsylvania*—Hamburg:		
Meyer & Brown (Caucho Ball)	50,000	
Henderson & Korn (Caucho Ball)	45,000	
Various (Fine)	10,000	105,000
JULY 28.—By the *Carmania*=Liverpool.		
Arnold & Zeiss (Fine)	90,000	
Arnold & Zeiss (Coarse)	13,500	
Robinson & Co. (Fine)	15,000	
Various (Coarse)	29,000	147,500
JULY 29.—By the *Vaderland*=Antwerp:		
Meyer & Brown (Fine)	22,500	
Michelin Tire Co. (Fine)	22,500	45,000
AUGUST 4.—By the *Campania*=Liverpool:		
Henderson & Korn (Coarse)		30,000
AUGUST 4.—By the *Baltic*=Liverpool:		
Arnold & Zeiss (Caucho Ball)	17,000	
Arnold & Zeiss (Coarse)	2,500	
James T. Johnstone (Coarse)	11,200	
Henderson & Korn (Coarse)	67,000	
Henderson & Korn (Fine)	130,000	227,700
AUGUST 5.—By the *Zeeland*=Antwerp:		
Various (Fine)		7,500
AUGUST 9.—By the *Armenia*=Hamburg:		
Arnold & Zeiss (Fine)	7,000	
Ed. Maurer (Fine)	3,000	
Wallace L. Gough (Fine)	8,500	
Various (Fine)	14,000	32,500
AUGUST 11.—By the *Nickerie*=Ciudad Bolivar:		
General Export & Commission Co. (Fine)	45,000	
General Export & Commission Co. (Coarse)	44,000	
Yglesias, Lobo & Co. (Fine)	22,500	
Yglesias, Lobo & Co. (Coarse)	9,000	120,500
AUGUST 11.—By the *Caronia*=Liverpool:		
Henderson & Korn (Fine)	20,000	
Raw Products Co. (Fine)	11,200	31,200
AUGUST 11.—By the *Rochambeau*=Havre:		
Henderson & Korn (Fine)		9,000
AUGUST 12.—By the *Finland*=Antwerp:		
Various (Fine)		11,200
AUGUST 15.—By the *Mauretania*=Liverpool:		
Arnold & Zeiss (Fine)	4,500	
Raw Products Co. (Fine)	11,200	15,700
AUGUST 15.—By the *Pretoria*=Hamburg:		
Ed. Maurer (Fine)	2,500	
Various (Fine)	10,000	12,500
AUGUST 16.—By the *Celtic*=Liverpool:		
Robinson & Co. (Fine)		16,000
AUGUST 20.—By the *President Grant*=Hamburg:		
Wallace L. Gough (Fine)		8,500

OTHER NEW YORK ARRIVALS.

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

		Pounds.
JULY 14.—By the *Colon*=Colon:		
G. Amsinck & Co.	10,000	
Ed. Maurer	4,500	
Mecke & Co.	1,500	
Wessels, Kulenkampff & Co.	700	16,700
JULY 14.—By the *Albinga*=Colombia:		
R. del Castillo	1,200	
Caballero & Blanco	500	
Various	500	2,200
JULY 14.—By the *Ancon*=Cristobal:		
Various		6,500
JULY 16.—By the *Prinz August Wilhelm*=Colombia:		
Suzarte & Whitney		1,000
JULY 16.—By the *Magdalena*=Colon:		
J. S. Sambrada & Co.		2,000
JULY 17.—By the *Antilla*=Tampico:		
Continental-Mexican Rubber Co.		*87,500
JULY 18.—By the *Sibiria*=Frontera:		
Meyer & Brown		1,000
JULY 18.—By the *Esperanza*=Mexico:		
G. Amsinck & Co.	2,200	
Wessels, Kulenkampff & Co.	1,000	
W. Loazia & Co.	600	
Harburger & Stack	300	4,100
JULY 19.—By the *Zacapa*=Colombia:		
R. del Castillo		2,000
JULY 21.—By the *Advance*=Colon:		
G. Amsinck & Co.	3,000	
Pablo Calvet & Co.	500	
Various	2,500	6,000
JULY 22.—By the *Vasari*=Bahia:		
A. Hirsch & Co.		45,000
JULY 22.—By the *Sixaola*=Port Limon:		
Various		3,000
JULY 22.—By the *Emil L. Boas*=Colombia:		
M. Keith	2,000	
Rosenthal & Sons	2,200	
Andean Trading Co.	5,500	9,700

JULY 25.—By the *Mexico*=Mexico:

E. Steiger & Co.	1,500	
Harburger & Stack	1,000	
J. Menendez	700	
Murphy & Fultz	1,500	4,700

JULY 26.—By the *Panama*=Colon:

G. Amsinck & Co.	800	
Harburger & Stack	800	
W. R. Grace & Co.	27,500	29,100

JULY 28.—By the *Allemania*=Colombia:

Caballero & Blanco	2,000	
G. Amsinck & Co.	500	2,500

JULY 29.—By the *Carillo*=Port Limon:

I. Brandon & Bros.	600	
Gravenhorst & Co.	600	1,200

JULY 30—By the *Danube*=Colon:

A. M. Capen's Sons		3,500

JULY 30.—By the *Guantanamo*=Tampico:

Arnold & Zeiss		*11,200

AUGUST 1.—By the *Alliance*=Colon:

G. Amsinck & Co.	2,800	
Dumarest Bros.	2,500	
W. R. Grace & Co.	1,000	
Frank Lapiedra	700	
Pottberg, Ebeling & Co.	1,400	8,400

AUGUST 1.—By the *Monterey*=Mexico:

G. Amsinck & Co.	600	
E. Steiger & Co.	1,500	
Hermann Kluge	1,000	
Broederman & Litzrodt	500	
American Trading Co.	2,500	
Harburger & Stack	1,500	
General Export & Commission Co.	1,200	
Laurence Johnson & Co.	1,200	
H. Marquardt & Co.	3,000	13,000

AUGUST 4.—By *El Sol*=Galveston:

Various		*33,500

AUGUST 4.—By the *Prinz Eitel Friedrich*=Colombia:

Caballero & Blanco		500

AUGUST 4.—By the *Antilles*=New Orleans:

Various		3,000

AUGUST 4.—By the *Frutera*=Colon:

G. Amsinck & Co.	2,500	
Rosenthal & Sons	2,500	5,000

AUGUST 4.—By the *Pastores*=Port Limon:

Isaac Brandon & Bros.	1,000	
Wessels, Kulenkampff & Co.	1,000	2,000

AUGUST 5.—By the *Carl Schurz*=Colon:

G. Amsinck & Co.	2,000	
J. S. Sambrada & Co.	2,000	
H. Wolff & Co.	2,000	6,000

AUGUST 6.—By the *Colon*=Colon:

G. Amsinck & Co.	3,000	
United Export Co.	1,000	
C. E. Griffin	900	
Duke & Co.	1,100	
Pablo Calvet & Co.	800	
M. A. de Leon & Co.	700	7,500

AUGUST 7.—By the *Proteus*=New Orleans:

Various		12,000

AUGUST 8.—By the *Morro Castle*=Mexico:

Harburger & Stack	2,000	
General Export & Commission Co.	600	2,600

AUGUST 8.—By the *Metapan*=Colombia:

R. Del Castillo		3,500

AUGUST 9.—By the *Sibiria*=Frontera:

Meyer & Brown	600	
G. N. Schmidt	600	1,200

AUGUST 9.—By the *Armenia*=Hamburg:

Various		11,200

AUGUST 11.—By the *Albingia*=Colombia:

Kunhardt & Co.	500	
R. Del Castillo	500	
Caballero & Blanco	700	
Various	1,000	2,700

AUGUST 11.—By the *Dakotan*=Mexico:

Alexander & Baldwin		4,000

AUGUST 13.—By the *Prinz August Wilhelm*=Colon:

Andean Trading Co.		3,500

AUGUST 13.—By the *Tagus*=Colon:

Wessels, Kulenkampff & Co.	200	
A. Held	500	
A. S. Lascelles & Co.	800	1,500

AUGUST 14.—By the *Advance*=Colon:

G. Amsinck & Co.	4,100	
F. Rosenstern & Co.	3,900	
Charles E. Griffin	500	8,500

AUGUST 14.—By the *Comus*=New Orleans:

Various		1,700

AUGUST 14.—By the *Zacapa*=Colombia:

G. Amsinck & Co.		1,000

AUGUST 14.—By the *Titian*=Bahia:

G. Amsinck & Co.	36,000	
A. Hirsch & Co.	33,500	69,500

AUGUST 15.—By the *Esperanza*=Mexico:

G. Amsinck & Co.	1,500	
Harburger & Stack	1,000	
J. Menendez & Co.	2,500	5,000

AUGUST 16.—By the *Vestris*=Bahia:

A. Hirsch & Co.		5,500

AUGUST 18.—By the *Prinz Sigismund*=Colombia:

Caballero & Blanco	500	
J. A. Pauli & Co.	400	1,000

AUGUST 18.—By the *Suriname*=Belize:

West Coast Rubber Co.	1,200	
Neuss Hesslein & Co.	1,000	
A. Rosenthal & Sons	600	2,800

AUGUST 19.—By the *Panama*=Colon:

Laurence Johnson & Co.	3,500	
Piza, Nephews & Co.	2,500	6,000

AUGUST 19.—By the *Sixaola*=Port Limon:

A. Held	1,000	
Suzarte & Whitney	500	
Wessels, Kulenkampff & Co.	500	2,000

AFRICAN.

POUNDS.

JULY 12.—By the *Amerika*=Hamburg:

Ed. Maurer		4,500

JULY 12.—By the *Caronia*=Liverpool:

Henderson & Korn	3,000	
Robinson & Co.	9,000	12,000

JULY 15.—By the *Finland*=Antwerp:

Meyer & Brown	22,000	
I. T. Johnstone	15,000	
Various	22,500	59,500

JULY 15.—By the *Niagara*=Havre:

Arnold & Zeiss		4,000

JULY 16.—By the *President Lincoln*=Hamburg:

Wallace L. Gough		30,000

JULY 16.—By the *Oceanic*=Southampton:

Various		15,000

JULY 20.—By the *Lapland*=Antwerp:

Henderson & Korn		3,000

JULY 24.—By the *Pennsylvania*=Hamburg:

Meyer & Brown	75,000	
Ed. Maurer	40,000	
Arnold & Zeiss	22,500	
Various	60,000	197,500

JULY 25.—By the *Cedric*=Liverpool:

Meyer & Brown	2,500	
Henderson & Korn	2,000	4,500

JULY 28.—By the *Carmania*=Liverpool:

Arnold & Zeiss		2,000

JULY 28.—By the *Minnetonka*=London:

Arnold & Zeiss	55,000	
General Rubber Co.	65,000	120,000

JULY 29.—By the *Vaderland*=Antwerp:

Meyer & Brown		8,000

JULY 30.—By the *Westerdyk*=Amsterdam:

Meyer & Brown		11,500

AUGUST 1.—By the *Patricia*=Hamburg:

Wallace L. Gough		5,000

AUGUST 5.—By the *Zeeland*=Antwerp:

Meyer & Brown	22,500	
Robert Badenhop	8,500	
Various	16,500	47,500

AUGUST 8.—By the *Adriatic*=Liverpool:

Various		11,200

AUGUST 9.—By the *Armenia*=Hamburg:

Meyer & Brown	70,000	
Arnold & Zeiss	20,500	
Ed. Maurer	11,200	
Wallace L. Gough	18,000	119,700

AUGUST 11.—By the *Caronia*=Liverpool:

J. T. Johnstone	4,500	
Henderson & Korn	2,200	6,700

AUGUST 11.—By the *Rochambeau*=Havre:

Meyer & Brown		11,200

AUGUST 12.—By the *Finland*=Antwerp:

Meyer & Brown	22,000	
American Congo Co.	6,000	
Various	6,000	34,000

AUGUST 15.—By the *Pretoria*=Hamburg:

Ed. Maurer	4,500	
General Rubber Co.	4,500	
Various	53,000	62,000

AUGUST 16.—By the *Amerika*=Hamburg:

Ed. Maurer		9,000

AUGUST 18.—By the *Kroonland*=Antwerp:

J. T. Johnstone	15,000	
Various	10,000	25,000

AUGUST 20.—By the *President Grant*=Hamburg:

Ed. Maurer	17,000	
Various	25,000	42,000

EAST INDIAN.

[*Denotes Plantation Rubber.]

POUNDS.

JULY 12.—By the *Amerika*=Hamburg:

Charles T. Wilson		*4,000

JULY 12.—By the *New York*=Southampton:

Robinson & Co.	*11,200	
Charles T. Wilson	*11,200	
Rubber Trading Co.	*13,500	
Ed. Maurer	*11,200	
Henderson & Korn	*4,500	
Various	*115,000	*166,600

JULY 14.—By the *Minnehaha*=London:

J. T. Johnstone	*11,200	
Henderson & Korn	*11,200	
Wallace L. Gough	*11,200	
Ed. Maurer	*19,500	*53,100

JULY 15.—By the *Finland*=Antwerp:

Arnold & Zeiss	*150,000	
Meyer & Brown	*39,000	
Ed. Maurer	*45,000	
Wallace L. Gough	*11,200	*245,200

JULY 15.—By the *City of Edinburgh*=Colombo:

Meyer & Brown	*18,500	
Meyer & Brown	*56,000	
Ed. Maurer	*55,000	
H. W. Peabody & Co.	*4,500	
N. Y. Commercial Co.	*11,500	*145,500

JULY 16.—By the *President Lincoln*=Hamburg:

Wallace L. Gough		*1,500

JULY 16.—By the *Arsterturn*=Colombo:

Meyer & Brown	*58,500	
Ed. Maurer	*55,700	
H. W. Peabody & Co.	*4,500	
N. Y. Commercial Co.	*3,500	*122,200

JULY 16.—By the *Oceanic*=Southampton:

Charles T. Wilson	*90,000	
Meyer & Brown	*15,200	
Arnold & Zeiss	*22,500	
Ed. Maurer	*18,500	
Rubber Trading Co.	*2,000	
Robinson & Co.	*3,500	
Various	*100,000	*251,700

JULY 18.—By the *Lothian*=Singapore:

Henderson & Korn	*86,000	
A. Hirsch & Co.	*45,000	
General Rubber Co.	*11,200	
Malaysian Rubber Co.	*27,500	
L. Littlejohn & Co.	*11,200	*180,900

JULY 20.—By the *Lapland*=Antwerp:

Meyer & Brown	*56,500	
Arnold & Zeiss	*50,000	
Various	*22,500	*129,000

JULY 21.—By the *Minnewaska*=London:

Meyer & Brown	*41,500	
Ed. Maurer	*67,000	
Wallace L. Gough	*40,000	
J. T. Johnstone	*35,000	
Henderson & Korn	*15,500	
Rubber Trading Co.	*7,500	
Lunham & Moore	*22,500	
General Rubber Co.	*85,000	
A. Hirsch & Co.	*11,200	
Charles T. Wilson	*4,500	
Various	*25,000	
Arnold & Zeiss	*50,000	*404,700

JULY 22.—By the *Ryndam*=Amsterdam:

Rubber Trading Co.		*4,500

JULY 24.—By the *St. Paul*=Southampton:

Meyer & Brown	*13,000	
Robinson & Co.	*15,000	
Ed. Maurer	*45,000	
Arnold & Zeiss	*22,500	
W. Stiles	*6,000	
Charles T. Wilson	*1,500	*103,000

JULY 25.—By the *Cedric*=Liverpool:

Ed. Maurer		*14,000

JULY 26.—By the *Kaiserin Auguste Victoria*=Hamburg:

Ed. Maurer	*11,200	
Charles T. Wilson	*4,500	*15,700

JULY 28.—By the *Gothland*=Antwerp:

Rubber Trading Co.	*3,500	

JULY 28.—By the *Minnetonka*=London:

Meyer & Brown	*33,500	
J. T. Johnstone	*50,000	
Ed. Maurer	*22,500	
Rubber Trading Co.	*7,500	
Henderson & Korn	*2,200	
A. Hirsch & Co.	*3,500	
Charles T. Wilson	*65,000	
L. Littlejohn & Co.	*11,200	
Wallace L. Gough	*5,500	
Henderson & Korn	*5,000	
Various	*23,000	*228,900

JULY 29.—By the *Vaderland*=Antwerp:

Meyer & Brown		*40,000

JULY 30.—By the *City of Baroda*=Singapore:

L. Littlejohn & Co.		*25,000

JULY 30.—By the *Westerdyk*=Amsterdam:

Meyer & Brown	*43,000	
Rubber Trading Co.	*5,500	
Arnold & Zeiss	*17,500	*66,000

JULY 30.—By the *Olympic*=Southampton:

Meyer & Brown	*10,000	
Robinson & Co.	*33,500	
W. R. Grace & Co.	*11,200	
N. Y. Commercial Co.	*112,000	
Arnold & Zeiss	*22,500	
W. Stiles	*3,500	
Various	*33,500	*226,200

AUGUST 4.—By the *Rotterdam*=Amsterdam:

Meyer & Brown		*11,000

AUGUST 4.—By the *Baltic*=Liverpool:

Ed. Maurer		*7,500

AUGUST 4.—By the *Philadelphia*=Southampton:

Meyer & Brown	*43,000	
Arnold & Zeiss	*22,500	
Rubber Trading Co.	*2,000	
A. W. Brunn	*2,000	
Raw Products Co.	*11,200	
W. Stiles	*5,500	
Robinson & Co.	*13,500	
Charles T. Wilson	*75,000	
Goodyear Tire & Rubber Co.	*60,000	
Various	*90,000	*324,700

AUGUST 5.—By the *Zeeland*=Antwerp:

Meyer & Brown	*127,600	
Arnold & Zeiss	*16,000	
Rubber Trading Co.	*22,500	
Wallace L. Gough	*11,200	
Robert Badenhop	*8,500	*185,800

AUGUST 5.—By the *Kasenga*=Colombo:

Meyer & Brown	*47,000	
General Rubber Co.	*22,500	
Ed. Maurer	*51,000	
N. Y. Commercial Co.	*17,000	
Various	*42,000	*179,500

AUGUST 5.—By the *Minneapolis*=London:

Meyer & Brown	*63,000	
James T. Johnstone	*33,500	
E. Bonstead & Co.	*22,500	
W. R. Grace & Co.	*5,500	
General Rubber Co.	*123,000	
Charles T. Wilson	*33,500	
L. Littlejohn & Co.	*26,000	*307,000

AUGUST 7.—By the *Majestic*=Southampton:

Ed. Maurer	*22,500	
Charles T. Wilson	*75,000	
Goodyear Tire & Rubber Co.	*25,500	*123,000

AUGUST 8.—By the *Adriatic*=Liverpool:

Various		*2,000

AUGUST 9.—By the *Amerika*=Hamburg:

Meyer & Brown	*11,000	

AUGUST 9.—By the *Naneric*=Colombo:

Meyer & Brown	*91,000	
Ed. Maurer	*25,500	
H. W. Peabody & Co.	*22,500	*139,000

AUGUST 11.—By the *Sturmfels*=Colombo:

Meyer & Brown	*72,000	
Ed. Maurer	*47,000	
N. Y. Commercial Co.	*17,000	
Various	*22,500	*158,500

AUGUST 11.—By the *Caronia*=Liverpool:

Western Electric Co.		*5,000

AUGUST 11.—By the *Minnehaha*=London:

Meyer & Brown	*1,600	
James T. Johnstone	*11,200	
Robinson & Co.	*3,500	
General Rubber Co.	*22,500	
Henderson & Korn	*11,200	
Adolph Hirsch & Co.	*1,100	*51,100

AUGUST 11.—By the *New York*=Southampton:

Meyer & Brown	*25,200	
W. Stiles	*4,000	
Arnold & Zeiss	*50,000	
Goodyear Tire & Rubber Co.	*22,500	
Charles T. Wilson	*75,000	*176,700

AUGUST 12.—By the *Finland*=Antwerp:

Meyer & Brown	*24,000	
Meyer & Brown	*11,200	
Arnold & Zeiss	*18,000	*53,200

AUGUST 13.—By the *Oceanic*=Southampton:

Meyer & Brown	*4,500	
W. Stiles	*6,000	
Ed. Maurer	*6,200	
Arnold & Zeiss	*246,000	
Charles T. Wilson	*5,000	
Robinson & Co.	*11,200	
Rubber Trading Co.	*7,000	
Various	*13,500	*299,400

AUGUST 15.—By the *Pretoria*=Hamburg:

Meyer & Brown	*6,000	
Ed. Maurer	*12,500	
Charles T. Wilson	*3,500	
Wallace L. Gough	*3,500	
Various	*12,500	*38,000

AUGUST 16.—By the *Amerika*=Hamburg:

Meyer & Brown	*4,500	
Various	*11,000	*15,500

AUGUST 18.—By the *St. Paul*=Southampton:

Charles T. Wilson	*101,000	
Arnold & Zeiss	*56,000	
William H. Stiles	*10,000	
Robinson & Co.	*18,000	
Meyer & Brown	*4,500	
Various	*20,000	*209,500

AUGUST 18.—By the *Minnewaska*=London:

General Rubber Co.	*302,000	
James T. Johnstone	*68,000	
Meyer & Brown	*14,000	
Henderson & Korn	22,500	
Henderson & Korn	*4,500	
Adolph Hirsch & Co.	*18,000	
E. Bonstead & Co.	*11,200	
Wallace L. Gough	*11,200	*451,400

AUGUST 18.—By the *Jeseric*=Singapore:

Meyer & Brown	*11,200	
Ed. Maurer	*75,000	
United Malaysian Rubber Co.	*27,000	
E. Bonstead & Co.	*11,200	
Henderson & Korn	*5,000	
Various	*62,500	*191,900

AUGUST 18.—By the *Kronland*=Antwerp:

Meyer & Brown		*60,000

AUGUST 20.—By the *Olympic*=Southampton:

Arnold & Zeiss	*33,600	
Charles T. Wilson	*18,500	
Raw Products Co.	*11,200	
Rubber Trading Co.	*2,200	
Ed. Maurer	*13,500	
William H. Stiles	*6,500	
Meyer & Brown	*8,000	*93,500

AUGUST 20.—By the *President Grant*=Hamburg:

Wallace L. Gough	*11,200	
Ed. Maurer	*4,500	*15,700

BOSTON ARRIVALS.

IMPORTS IN JULY, 1913.

	Pounds.	Value.
Gutta-jelutong	399,911	$21,258
India-rubber	8,249	5,932

CUSTOM HOUSE STATISTICS.

DISTRICT OF NEW YORK—JULY, 1913.

	Pounds.	Value.
Imports:		
India-rubber	7,946,195	$4,939,476
Balata	132,642	75,234
Guayule	265,029	102,494
Gutta-percha	7,646	6,344
Gutta-jelutong (Pontianak)	330,025	103,277
Total	8,681,537	$5,226,825
Exports:		
India-rubber	69,472	$44,336
Balata	3,304	1,320
Guayule	.....	.....
Gutta-percha	.....	.....
Reclaimed rubber	74,131	17,869
Gutta-jelutong (Pontianak)	.....	.....
Rubber scrap, imported	2,388,818	$216,482
Rubber scrap, exported	198,316	33,201

EXPORTS OF INDIA-RUBBER FROM MANAOS FOR JULY, 1913 (IN KILOGRAMS).

	NEW YORK.					EUROPE.					
EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.	Fine.	Medium.	Coarse.	Caucho.	Total.	Grand Total.
Zarges, Ohliger & Ca.	155,077	4,349	23,105	45,956	228,487	67,433	12,320	8,065	22,702	110,520	339,007
General Rubber Co. of Brazil	41,934	8,163	13,163	57,034	120,294	68,338	15,574	10,874	58,831	153,617	273,911
J. G. Araujo	7,632	2,379	6,606	800	17,417	.....	1,000	1,729	2,200	4,929	22,346
Mesquita & Co.	.....	.....	.....	.....	.....	274	.....	1,382	818	2,474	2,474
Théodore Lévy, Camille & Co.	.....	.....	.....	.....	.....	.....	.....	.....	534	534	534
W. Peters & Co.	.....	.....	.....	.....	.....	960	6,007	3,508	698	11,173	11,173
	204,643	14,891	42,874	103,790	366,198	137,005	34,901	25,558	85,783	283,247	649,445
Iquitos, direct	3,622	.....	565	16,705	20,892	17,485	24	3,490	214,570	235,569	256,461
Total, July, 1913	208,265	14,891	43,439	120,495	387,090	154,490	34,925	29,048	300,353	518,816	905,906

EXPORTS OF INDIA-RUBBER FROM PARA, MANAOS AND IQUITOS FOR JULY, 1913 (IN KILOGRAMS).

	NEW YORK.					EUROPE.					
EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.	Fine.	Medium.	Coarse.	Caucho.	Total.	Grand Total.
Zarges, Berringer & Co.	43,255	14,316	136,726	26,373	220,670	151,182	19,235	16,550	4,015	190,982	411,652
General Rubber Co. of Brazil	9,004	1,901	46,052	33,328	90,285	17,340	1,020	.....	.....	18,360	108,645
J. Marques	47,160	8,179	134,304	60,390	250,033	54,570	1,530	.....	.....	56,100	306,133
R. O. Ahlers & Co.	.....	.....	.....	.....	.....	1,044	.....	330	690	2,064	2,064
Suarez Hermanos & Co., Ltd.	.....	.....	.....	.....	.....	33,685	103	276	78,545	112,609	112,609
Pires Teixeira & Co.	14,790	3,740	24,750	.....	43,280	47,940	.....	.....	.....	47,940	91,220
Sundry exporters	2,040	.....	1,320	840	4,200	.....	.....	.....	.....	.....	4,200
Itacoatiara, direct	.....	.....	.....	.....	.....	3,450	290	1,920	270	5,930	5,930
	116,249	28,136	343,152	120,931	608,468	309,211	22,178	19,076	83,520	433,985	1,042,453
Manáos, direct	136,524	18,718	39,386	123,516	318,144	137,005	34,901	26,092	85,249	283,247	601,391
Iquitos, direct	3,622	.....	565	16,705	20,892	17,485	24	3,490	214,570	235,569	256,461
Total, July, 1913	256,395	46,854	383,103	261,152	947,504	463,701	57,103	48,658	383,339	952,801	1,900,305

INDIA RUBBER WORLD

Vol. 48. SEPTEMBER 1, 1913. No. 6.

TABLE OF CONTENTS.

Editorial:
The Monroe Doctrine and the Rubber Interests 605
When Rubber Sold for 25c 606
Not All Rubber Gathering Inhumane 607
Insurance in Wholesale Lots 607
A Protest That Sounds Reasonable 608
Some Interesting Comparisons 608
Why Not Washable Shoes? 608
Santos and Sao Paulo ..... *By the Editor* 609
[With 5 Illustrations.]
How Motor Car Tanks Are Filled in Colorado 612
[With 2 Illustrations.]
Navy Specifications ..... *By E. S. Land, Naval Constructor, U. S. N.* 613
New Navy Department Specifications 614
Risks of Poisoning in Rubber Industry 615
The Struggle Between Brazil and the Far East 616
Plantation Rubber and Direct Purchases 618
Reduced Brazilian Export and Import Duties 618
After That Thirty-Million-Dollar Trade in South America 618
Sources of Error in Determining the Acetone Extract in Rubber Compounds ..... *By Professor W. Jones* 619
Two New Kinds of Rubber for Mexico 620
[With 1 Illustration.]
The Rubber Trade in Akron ..... *Our Correspondent* 621
[With 1 Illustration.]
The Rubber Trade in Boston ..... *Our Correspondent* 622
The Rubber Trade in Cincinnati ..... *Our Correspondent* 623
The Rubber Trade in Chicago ..... *Our Correspondent* 624
The Rubber Trade in Rhode Island ..... *Our Correspondent* 624
The Rubber Trade in Trenton ..... *Our Correspondent* 625
The Rubber Trade in San Francisco ..... *Our Correspondent* 626
Interesting Letters from Our Readers 627
Three Years' Rubber Statistics 628
Rubber and the Fisherman 629
[With 9 Illustrations.]
News of the American Rubber Trade 631
Fine New Buildings of the Boston Woven Hose 635
[With 5 Illustrations.]
The Outlook for the Walpole Tire and Rubber Co 637
New Rubber Goods in the Market 639
[With 7 Illustrations.]
Rubber Ball Suggestion for the Retailer 640
[With 1 Illustration.]
The Editor's Book Table 642
[With 1 Illustration.]
New Trade Publications 641
Obituary Record 643
[With Portrait of J. D. Cheever.]
Some Rubber Interests in Europe 644
German Rubber Statistics 644
Rubber Manufacture in Bogota 644
Some Rubber Notes from London 645
Competitions at Next Year's London Rubber Exhibition 646
A New Rubber from Queensland 646
Some Rubber Planting Notes 647
Rubber and Balata in British Guiana 649
Recent Patents Relating to Rubber 650
[United States, Great Britain, France, Germany.]
Report of the Crude Rubber Market 656

Antwerp.

RUBBER STATISTICS FOR JULY.

DETAILS.	1913.	1912.	1911.	1910.	1909.
Stocks, June 30..*Kilos*	1,085,143	343,191	773,977	460,517	476,420
Arrivals in July—					
Congo sorts	164,603	296,528	198,520	144,697	461,506
Other sorts	27,531	21,662	21,790	42,685	56,358
Plantation sorts	134,531	57,405	42,741	65,517	12,056
Aggregating	1,411,808	718,786	1,037,028	710,416	1,006,340
Sales in July.....	377,209	284,475	571,294	190,451	481,828
Stocks, July 31.....	1,034,599	434,311	465,734	519,965	524,512
Arrivals since Jan. 1—					
Congo sorts	1,815,743	1,713,944	1,841,113	1,800,323	2,177,715
Other sorts	100,572	90,828	268,743	210,207	610,922
Plantation sorts	1,146,460	670,039	374,217	324,577	144,787
Aggregating	3,062,775	2,474,811	2,484,073	2,335,107	2,933,424
Sales since Jan. 1....	2,539,236	2,715,038	2,606,551	2,356,652	3,004,647

RUBBER ARRIVALS FROM THE CONGO.

JULY 16.—By the steamer *Albertville:*

		Kilos.	
Bunge & Co	(Société Générale Africaine)	12,400	
do	(Cie du Congo Belge)	980	
do	(Cie. du Kasai)	63,000	
do	(Belgika)	1,900	
do	(Chemins de fer Grands Lacs)	1,500	
do	(Forminiere)	1,400	
do		1,000	
Société Coloniale Anversoise	(Intertropical)	10,800	
do	(Comminière)	6,100	
do	(Haut Congo)	7,061	
Credit Colonial & Commercial (Anc. L. & W. Van de Velde) (S. A.),	(Comfina)	24,600	
do	(Velde)	14,200	
Charles Dethier	(American Congo Cy)	3,750	
Osterrieth & Co	(Lubefu)	3,000	151,691

AUGUST 6.—By the steamer *Elisabethville:*

		Kilos.	
Bunge & Co	(Société Générale Africaine)	13,500	
do	(Comfina)	37,200	
do	(Grand Lacs)	12,600	
do	(Forminière)	3,600	
do	(Belgika)	3,400	
do	(Cie du Congo Belge)	2,500	
do	(Alberta)	400	
do		2,700	
Société Coloniale Anversoise	(Haut Congo)	3,200	
do	(Lomami)	2,000	
do	(Sté Commerciale & Minière du Congo)	7,600	
Crédit Colonial & Commercial (Anc. L. & W. Van de Velde), (S. A.)		12,600	
do	(Velde), (S. A.), (C. C. V.)	850	
Willaert Frères		10,000	
Charles Dethier		500	112,650

Plantation Rubber From the Far East.

EXPORTS OF CEYLON-GROWN RUBBER.

(From January 1 to July 28, 1913. Compiled by the Ceylon Chamber of Commerce.)

	1912.	1913.
To Great Britain .....*pounds*	3,460,030	6,376,151
To United States	1,904,536	3,627,080
To Belgium	615,834	1,831,354
To Australia	104,874	303,049
To Germany	91,819	124,449
To Canada	16,065	.....
To Japan	15,154	132,051
To Austria	12,563	26,716
To Italy	5,885	36,507
To Holland	2,282	992
To France	1,120	.....
To India	100	881
To Norway and Sweden.....	39	.....
To Straits Settlements	.....	20,064
Total	6,230,301	12,479,294

(Same period 1911, 2,754,085; same 1910, 1,489,878.)

The export figures of rubber for 1913 given in the above table include the imports re-exported, viz., 1,102,718 pounds. To arrive at the approximate quantity of Ceylon rubber exported for 1913 to date, deduct this quantity from the total exports. In previous years the exports of Ceylon rubber only were given.